STATUTORY INSTRUMENTS

S.I. No. 61 of 2006

IRISH AVIATION AUTHORITY

(OPERATIONS) ORDER, 2006

PUBLISHED BY THE STATIONERY OFFICE
DUBLIN
To be purchased directly from the
GOVERNMENT PUBLICATIONS OFFICE,
SUN ALLIANCE HOUSE, MOLESWORTH STREET, DUBLIN 2,
Or by mail order from
GOVERNMENT PUBLICATIONS, POSTAL TRADE SECTION,
51 ST. STEPHEN'S GREEN, DUBLIN 2,
(Tel: 01-6476834/35/36/37; Fax: 01 6476843)
or through any bookseller.

(Prn. A6/0133) Price: €8.89

IRISH AVIATION AUTHORITY

(OPERATIONS) ORDER, 2006

S.I. No. 61 of 2006

ARRANGEMENT OF ARTICLES

PART I
PRELIMINARY

PART II
GENERAL

PART III
FLIGHT OPERATIONS

PART IV
AIRCRAFT OPERATING LIMITATIONS

PART V
AIRCRAFT INSTRUMENTS, EQUIPMENT AND SAFETY DEVICES

PART VI
AIRCRAFT COMMUNICATION AND NAVIGATION EQUIPMENT

PART VII
AIRCRAFT CREW

PART VIII
AIRCRAFT MAINTENANCE

FIRST SCHEDULE
Instruments, Equipment and Safety Devices for Aircraft

SECOND SCHEDULE
Manuals, Logs and Records

IRISH AVIATION AUTHORITY

(OPERATIONS) ORDER, 2006

S.I. No. …….. of 2006

The Irish Aviation Authority in pursuance of sections 5, 14, 58, 59, 60, 65 and 67 of the Irish Aviation Authority Act, 1993 (No. 29 of 1993) as amended by the Air Navigation and Transport (Amendment) Act, 1998 (No. 24 of 1998) and the Aviation Regulation Act, 2001 (No. 1 of 2001), hereby orders as follows:

PART I
PRELIMINARY

Citation and commencement

1. (1) This Order may be cited as the Irish Aviation Authority (Operations) Order, 2006.

(2) This Order shall come into operation on the first day of March, 2006.

Definitions

2. (1) In this Order:

"the Act" means the Irish Aviation Authority Act, 1993 (No. 29 of 1993) as amended;

"the Authority" means the Irish Aviation Authority;

"aerial work aircraft" means an aircraft, not being a commercial transport aircraft, which is being flown for payment required to be made, or promised, to the operator of the aircraft in respect of the flight or of the purpose for which the flight is made;

"aerodrome" means a defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft;

"aerodrome operating minima" means the limits of usability of an aerodrome for:

(i) take-off, expressed in terms of runway visual range (RVR) and/or visibility and if necessary, cloud conditions; or

(ii) landing in approach and landing operations with vertical guidance, expressed in terms of visibility and/or runway visual range (RVR) and decision height or altitude (DA/H); and

(iii) landing in non-precision approach and landing operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude or height (MDA/H) and if necessary, cloud conditions;

"aeroplane" means a power-driven heavier-than-air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;

"aircraft" means any machine that can derive support in the atmosphere from the reactions of the air other than the reaction of the air against the earth's surface;

"aircraft operating manual" means a manual, acceptable to the state of the operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems and other material relevant to the operation of the aircraft. This manual is part of the Operations Manual defined below;

"air operator's certificate" (AOC) means a certificate authorising an operator to carry out specified commercial air transport operations;

"air transport undertaking" means an undertaking the business of which includes the carriage by air for hire or reward of passengers or cargo;

"alternate aerodrome or heliport" means an aerodrome or heliport (including the aerodrome or heliport of departure), which may be specified in a flight plan, to which an aircraft in flight may proceed when it becomes impossible or inadvisable to proceed to or to land at the aerodrome or heliport of intended landing; alternate aerodromes include the following:

"take-off alternate" means an alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure;

"en-route alternate" means an aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en route;

"ETOPS en-route alternate" means a suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en-route in an ETOPS operation;

"destination alternate" means an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing;

"altimetry system error (ASE)" means the difference between the altitude indicated by the altimeter display assuming a correct altimeter barometric setting and the pressure altitude corresponding to the undisturbed ambient pressure;

"applicable Joint Aviation Requirements" means the relevant Joint Aviation Requirements applicable to the subject referred to in the Order and effective in the State under the European Communities Council Regulation 91/3922/EEC of 16 December 1991[1] or otherwise prescribed as effective by a direction of the Authority under this Order or any other Order;

"Approach and landing operations using instrument approach procedures" means instrument approach and landing operations which are classified as follows:

"Non-precision approach and landing operations" - which means an instrument approach which utilises lateral guidance but does not use vertical guidance;

"Approach and landing operations with vertical guidance" - which means an instrument approach and landing which utilises lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations;

"Precision approach and landing operations" – which means an instrument approach and landing using precision lateral and vertical guidance with minima as determined by the category of operation;

Note: Lateral and vertical guidance refers to the guidance provided either by a ground-based navigation aid or computer generated navigation data;

"appropriate authority" means, in relation to the State, the Authority and, in relation to any other state, the relevant authority of the state having sovereignty over the territory being overflown, and in the case of flight over the high seas, the relevant authority of the state in which the aircraft concerned is registered;

"appropriate person" means an authorised officer of the Authority as defined in the Act or a person authorised by the appropriate Authority for the purposes of this Order or the Chicago Convention;

"authorised officer" means an authorised officer of the Authority as defined in section 2 of the Act;

"cabin crew member" means a crew member who performs, in the interest of the safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft but who shall not act as a flight crew member;

"cargo" includes mail and animals;

[1] OJ No L.373, 31.12.91 pp 4-8

"certificate of airworthiness" means, save where the contrary intention appears, a certificate of airworthiness issued or validated under the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003;

"certificate of registration" means, save where the contrary intention appears, a certificate of registration issued under the Irish Aviation Authority (Nationality and Registration of Aircraft) Order, 2005 (S.I. No. 634 of 2005);

"checklist system" has the meaning assigned to it by Article 23 of this Order;

"the Chicago Convention" (in this Order referred to as "the Convention") has the meaning assigned to it by the Act;

"commander" means the pilot-in-command designated by the operator for a specific flight, who may delegate responsibility to another pilot-in-command;

"commercial transport aircraft" means an aircraft used or intended to be used by the operator for the purpose of carrying passengers or cargo for which purpose payment is required to be made or promised to the operator or, in a case where the carriage is effected by an air transport undertaking, whether for payment or not;

"commercial air transport operation" means an aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire;

"configuration deviation list" (CDL) means a list established by the organisation responsible for the type design, with the approval of the state of design, which identifies any external parts of an aircraft type which may be missing at the commencement of a flight and which contains, where necessary, any information on associated operating limitations and performance correction;

"congested area" means a densely populated area which is substantially used for residential, commercial or recreational purposes and is without adequate safe landing areas;

"controlled flight" means any flight which is provided with air traffic control services;

"controlled VFR flight" means a controlled flight conducted in accordance with the visual flight rules;

"crew member" means a person assigned by an operator to duty on an aircraft during a flight duty period;

"cruise relief pilot" means a flight crew member who is assigned to perform pilot tasks during cruise flight to allow the pilot-in-command or a co-pilot to obtain planned rest;

"cruising level" means a level maintained during a significant portion of a flight;

"dangerous goods" means articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions, when transported by air;

"decision altitude (DA) or decision height (DH)" means a specified altitude or height in a precision approach or an approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach has not been established; (Note: DA is referenced to mean sea level and DH is referenced to the threshold elevation of the runway concerned);

"defined point after take-off or before landing" means, in the case of a multi-engine helicopter, the point before which (during or after take-off) or after which (during approach and landing) the helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required;

"duty time or period" with regard to a flight crew or a cabin crew member employed by or working for the holder of an air operator certificate means a continuous period of time during which that person is required to carry out any task or tasks associated with the business of that operator;

"elevated heliport" means a heliport located on a raised structure on land;

"Enhanced Ground Proximity Warning System (EGPWS)" means a ground proximity warning system with a forward looking terrain avoidance function;

"ETOPS" means extended range operations for twin engine turbine aircraft;

"flight crew member" means:

(a) in relation to an aircraft registered in the State, a flight crew member licensed or validated under the Irish Aviation Authority (Personnel Licensing) Orders, 2000 to 2003, and assigned to duty on an aircraft during flight time, or

(b) in relation to an aircraft registered in any other state, a flight crew member appropriately licensed or validated under the law of that state and charged with duties essential to the operation of an aircraft during a flight duty period;

"Flight Data Analysis" means a process of analysing recorded flight data in order to improve the safety of flight operations;

"flight duty time or period" means the total time from the moment a flight crew member commences duty, immediately subsequent to a rest period and prior to making a flight or series of flights, to the moment he or she is relieved of all duties having completed such flight or series of flights;

"flight manual" means a manual which is associated with a certificate of airworthiness and contains limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft;

"flight plan" means specified information provided to air traffic services units relative to an intended flight or portion of a flight of an aircraft;

"flight preparation form" has the meaning assigned to it by Article 29 of this Order;

"flight recorder" means any type of recorder installed in an aircraft for the purpose of complementing accident/incident investigation and includes flight data and cockpit voice recorders;

"flight safety documents system" means a set of inter-related documentation established by the operator, compiling and organising information necessary for flight and ground operations and comprising, as a minimum, the operations manual and the operator's maintenance control manual;

"flight time" means, save where the contrary intention appears, the total time from the moment an aeroplane first moves for the purpose of taking off, under its own or external power, until the moment it finally comes to rest at the end of the flight; (this is also known as "block to block" or "chock to chock" time in general usage) or in the case of a helicopter, from the moment its rotor blades start turning until the moment the helicopter finally comes to rest at the end of the flight and its rotor blades have stopped;

"ground handling" means those services necessary for an aircraft's arrival at and departure from an airport, other than air traffic services;

"heliport" means an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters;

"human factors principles" means principles which apply to aeronautical design, certification, training, operations and maintenance of aircraft and which seek safe interface between the human and other system components by proper consideration of human performance;

"human performance" means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations;

"instrument flight rules (IFR)" means the rules contained in Part IV of the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004 (S.I. No. 72 of 2004);

"instrument meteorological conditions (IMC)" means meteorological conditions expressed in terms of visibility, distance from cloud and ceiling less than the minima for visual meteorological conditions;

"Joint Aviation Requirements" means the Joint Aviation Requirements (JARs) adopted by the Joint Aviation Authorities of Europe referred to in section 14 of the Act;

"JAR-OPS" means "Joint Aviation Requirements - Operations" and consists of two Parts - JAR-OPS Part 1 refers to Aeroplanes and JAR-OPS Part 3 to Helicopters;

"JAR-145" means "Joint Aviation Requirements Part 145" and contains the requirements and procedures for the approval of an aircraft maintenance organisation for the maintenance release of a commercial transport aircraft;

"load sheet" has the meaning assigned to it by Article 30(4)(c) of this Order;

"maintenance" means the performance of tasks required to ensure the continued airworthiness of an aircraft including any one or combination of overhaul, inspection, replacement, defect rectification and the embodiment of a modification or repair;

"maintenance control manual" means an operator's maintenance control manual and has the meaning assigned to it in Part VIII of the Order;

"maintenance programme" means a document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of the aircraft to which it relates;

"maintenance release" means a maintenance release issued under the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 and is a release to service which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organisation's procedures manual or the operator's maintenance control manual or under an equivalent system;

"Master Minimum Equipment list (MMEL)" means a list established for a particular aircraft type by the organisation responsible for the type design with the approval of the State of Design containing items, one or more of which is permitted to be unserviceable at the commencement of a flight and which may be associated with special operating conditions limitations or procedures for that flight;

"maximum mass" means the maximum certificated mass of an aircraft;

"maximum total mass authorised" (MTMA) means the maximum total mass of the aircraft and its contents at which the aircraft may take off in accordance with the certificate of airworthiness in force in respect of the aircraft and the associated flight manual limitations and regulated performance;

"minimum descent altitude/height (MDA/MDH)" means a specified altitude or height in a non-precision approach or circling approach below which descent may not be made without visual reference;

"Minimum Equipment List (MEL)" means a list which provides for the operation of an aircraft, subject to specified conditions, with particular equipment inoperative, prepared by the aircraft operator in conformity with or more restrictive than the Master Minimum Equipment List (MMEL);

"obstacle clearance altitude (OCA) or obstacle clearance height (OCH)" means the lowest altitude or lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria;

"obstacle clearance limit (OCL)" means the height above the elevation of an aerodrome below which the minimum required vertical clearance cannot be maintained on approach or in the event of a missed approach;

"Operations Manual" has the meaning assigned to it by Article 23 of the Order;

"operational control" means the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft, those on board and the regularity and efficiency of that flight;

"operational flight plan" means the operator's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned;

"operator" means a person, organisation or enterprise engaged in or offering to engage in an aircraft operation; and who or which, in relation to any particular aircraft, has at the relevant time the responsibility for the management of that aircraft; the operator of a commercial transport aircraft is the holder of an air operator certificate from the state of the operator concerned; the operator of a private or an aerial work aircraft is the registered owner;

"operator's maintenance control manual" means a document which describes the operator's procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator's aircraft on time and in a controlled and satisfactory manner;

"the Order" means this Order;

"pilot-in-command" means the pilot designated by the operator or, in the case of a private category aircraft or an aerial work aircraft, designated by the registered owner, as being in command of that aircraft and charged with the safe conduct of a flight;

"Performance Class 1" means, in relation to a helicopter, performance such that, in the case of critical power unit failure, it is able to land on the rejected take-off area or safely continue the flight to an appropriate landing area, depending on when the failure occurs;

"Performance Class 2" means, in relation to a helicopter, performance such that in the case of critical power unit failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which case a forced landing may be required;

"Performance Class 3" means, in relation to a helicopter, performance such that, in the case of power unit failure at any point in the flight profile, a forced landing must be performed;

"prescribed" means prescribed by a direction given by the Authority and the expression "prescribe" shall be construed accordingly;

"pressure altitude" means an atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere as defined in Annex 8 to the Chicago Convention;

"private aircraft" means an aircraft which is neither a commercial transport aircraft nor an aerial work aircraft;

"proficiency check" means a demonstration of skill to revalidate or renew a flight crew licence rating and including such oral examination as the examiner may require;

"psychoactive substances" means alcohol, opoids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens and volatile solvents, whereas coffee and tobacco are excluded;

"repair" means the restoration of an aeronautical product to an airworthy condition to ensure that the aircraft continues to comply with the design aspects of the appropriate airworthiness requirements for the issuance of the type certificate for the respective aircraft type, after it has been damaged or subjected to wear;

"rest period" means any period of time on the ground during which a flight crew member is relieved of all duties by the operator;

"runway visual range" (RVR) means the range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line;

"required navigation performance" (RNP) means a statement of the navigation performance accuracy necessary for operation within a defined airspace with a containment value (termed RNP Type) expressed as a distance in nautical miles from the intended position within which flights would be for at least 95 per cent of the total flying time;

"state of registry" means the state on whose register the aircraft is entered;

"state of the operator" means the state in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence;

"synthetic training device (STD)" means any one of the following types of apparatus in which flight conditions are simulated on the ground:

(a) a synthetic training device which provides accurate representation of the flight-deck of a particular aircraft type to the extent that the mechanical, electrical, electronic and other aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of the type of aircraft are realistically simulated,

(b) a flight procedures simulator which provides a realistic flight-deck environment and which simulates instrument responses, simple control functions of mechanical, electrical, electronic and other aircraft systems, and the performance and flight characteristics of aircraft of a particular class, or

(c) a basic instrument flight trainer which is equipped with appropriate instruments and which simulates the flight-deck environment of an aircraft in flight in instrument flight conditions;

"target level of safety (TLS)" means a generic term representing the level of risk which is considered acceptable in particular circumstances;

"Technical Instructions" means the Technical Instructions for the Safe Transport of Dangerous Goods by Air published by the International Civil Aviation Organisation (ICAO) as Document No. 9284;

"total cosmic radiation" means the total of ionising and neutron radiation of galactic and solar origin;

"total vertical error (TVE)" means the vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level);

"transition altitude/level" means the altitude below which the vertical position of an aircraft is controlled by reference to altitudes instead of flight levels;

"visual flight rules (VFR)" means the rules contained in Part III of the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004;

"visual meteorological conditions (VMC)" means meteorological conditions expressed in terms of visibility, distance from cloud and ceiling equal to or better than the minima specified in Part III of the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004.

(2) In this Order a reference to an enactment or order shall, unless the context otherwise requires, be construed as a reference to the enactment or order as amended, as extended by or under any subsequent enactment or order.

Revocation

3. (1) The Irish Aviation Authority (Operations) Order, 2002 (S.I. No. 437 of 2002), the Irish Aviation Authority (Operations)(Amendment) Order, 2002 (S.I. No. 592 of 2002), the Irish Aviation Authority (Operations)(Amendment) Order, 2003 (S.I. No. 388 of 2003), the Irish Aviation Authority (Operations)(Amendment) Order, 2005 (S.I. No. 217 of 2005) and the Irish Aviation Authority (Operations)(Amendment No. 2) Order, 2005 (S.I. No. 778 of 2005) are hereby revoked.

(2) Notwithstanding the revocation of the Irish Aviation Authority (Operations) Orders, 2002 to 2005, direction given under those Orders and in force at the commencement of this Order shall continue in force and shall be deemed for all purposes to have been given under this Order.

Application of Order and exemption from Order

4. (1) Subject to paragraphs (2) and (3) of this Article, this Order shall, unless the contrary intention appears or is stated, apply to all aircraft registered in the State, wherever such aircraft may be, unless such an aircraft is subject to a delegation of oversight responsibility to another state under Article 83 bis to the Convention and shall also apply to all aircraft operated by a commercial transport operator under an air operator's certificate issued by the Authority and, with respect to Article 6(1) and Article 6(2), Article 9(2), Article 11, Article 18(1) and clauses (iv) and (v) of subparagraph (a) of Article 18(3), Article 19(1), Article 26(4), Article 48(2)(c) and (e), Article 51, Article 54(1), Article 56(3)(a) and (c) and Article 61(2) shall also apply to aircraft registered in any other state when such aircraft are in or over the State.

(2) The Authority may direct that such provisions of this Order as may be specified in the direction shall apply to such aircraft, not being aircraft registered in the State, which are for the time being under the management of a person who is qualified to hold a legal or beneficial interest by way of ownership of an aircraft registered in the State, as may be so specified.

(3) An aircraft being used solely for:

(a) the purpose of training any person or persons carried therein (other than the crew member thereof) to perform duties in an aircraft, or

(b) the carriage of persons for the purpose of undergoing instruction in flying,

shall not be a commercial transport aircraft for the purposes of this Order but the requirements of paragraphs (1), (2) and (3) of Article 30 and paragraphs (2) and (6) of Article 61 of this Order shall apply to such an aircraft unless otherwise prescribed or unless it is an aircraft owned by or operated under an arrangement entered into by a flying club or it is an aerial work aircraft, when it shall be registered in the State and the appropriate requirements of Articles 29 and 62 shall apply to it.

(4) The Authority may exempt a person or an aircraft from a provision of this Order subject to such conditions as the Authority determines necessary to ensure an equivalent level of safety in respect of such an exemption and which conditions shall be complied with by the person to whom or in regard to the aircraft to which the exemption relates.

(5) The provisions of this Order shall not apply to an aircraft to the extent that the applicable provisions of EU Regulations have force of law in the State and apply to that aircraft.

Application to unregistered aircraft

5. If an aircraft which is not registered flies in contravention of Article 13 of the Irish Aviation Authority (Nationality and Registration of Aircraft) Order, 2005, this Order shall apply to that aircraft, when in or over the State, in like manner as it applies to aircraft registered in the State and the liability of that aircraft, when so flying, shall be the same in all respects as the liability under this Order of aircraft registered in the State.

Detention of Aircraft and Access to Aircraft, Organisations and Persons

6. (1) Whenever it appears, either to the Authority or to an authorised officer, that an aircraft has been, is intended to be or is likely to be flown from any place within the State in such circumstances that the flight was or would be in contravention of the Act or any of the Orders or Directions thereunder, including this Order, or was or would be a cause of danger to persons or property therein or elsewhere, the Authority or the authorised officer may investigate those circumstances or any incident concerned and may give to the operator of that aircraft or the person acting as or designated by the operator to act as pilot-in-command of that aircraft instructions, not to make a further flight and may take such steps by way of detention of that aircraft or otherwise as appear to the Authority or that officer to be necessary in order to prevent such a flight. A person instructed by the Authority or an authorised officer not to make a flight shall comply with such an instruction.

(2) For the purpose of paragraph (1) of this Article or for any other purpose under the Act and the Orders or Directions thereunder, an authorised officer may enter and inspect an aircraft and may exercise the powers of section 65(2) of the Act for the purposes of the detention of an aircraft or of any investigation necessary.

(3) The Authority or an authorised officer shall, on request, be granted access by an operator to that operator's organisation and to any person who has duties under this Order in respect of the operation or maintenance of an aircraft by that organisation.

Directions

7. (1) The Authority may give such directions in respect of such matters and things as may be specified in this Order for carrying out the purposes of this Order and the Schedules thereto as may be necessary and appropriate.

(2) Directions under this Order may be given in the form of Notices to Airmen (otherwise known as "NOTAMS"), Notices to Aircraft Operators, Notices to Aircraft Owners and Aircraft Engineers (otherwise known as "Aeronautical Notices"), or Aeronautical Information Circulars, any or all of which may be posted on the Authority's website, or by notice sent by registered post to the person affected.

(3) Where compliance with the relevant Joint Aviation Requirements is required by this Order or by a Direction under this or any other Order or by virtue of a Regulation of the European Communities and a provision of those Joint Aviation Requirements conflicts or may be interpreted to conflict with a corresponding provision of this Order, that provision of the applicable Joint Aviation Requirements shall take precedence over the corresponding provision of this Order unless otherwise prescribed by the Authority in a particular case.

PART II
GENERAL

Operator's responsibility for employees' knowledge of laws and regulations

8. (1) The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements and shall ensure that in respect of the operation of each aircraft for which that operator is responsible:

(a) all employees of the operator concerned with an aircraft operation, including all flight and cabin crew members, are aware that, when in or over the territory of the State or of another state, they are obliged to comply with the laws, regulations and procedures in force in that state;

(b) the pilot-in-command of an aircraft is familiar with the regulations and procedures in force pertinent to the performance of his or her duties in respect of:

(i) the areas to be traversed, and

(ii) the aerodromes or heliports to be used and, where applicable, the air navigation facilities relating to them;

(c) other flight crew members of that aircraft are familiar with such of the regulations and procedures referred to in subparagraph (b) of this paragraph as are pertinent to the performance of their respective duties in the operation of the aircraft.

(d) the flight crew members have demonstrated the ability to speak and understand the language used for aeronautical telephony communications as specified in Annex 1 to the Convention

(2) The pilot-in-command of an aircraft shall comply with the relevant laws, regulations and procedures of the states in which that aircraft is operated.

Responsibility of the operator

9. (1) The pilot-in-command of an aircraft, and the operator of a commercial transport aircraft, shall be responsible for the operation and safety of the aircraft and for the safety of all persons on board during flight time.

(2) The operator of an aircraft shall not engage in commercial air transport operations with that aircraft unless that operator is in possession of a valid air operator's certificate issued by the state of the operator in accordance with Annex 6 to the Convention or, for an operator in the State, by the Authority under the Irish Aviation Authority (Air Operator Certificates) Order, 1999 (S.I. No. 420 of 1999), authorising that operator to conduct commercial air transport operations in accordance with such conditions and limitations as may be specified for that operator and an aircraft, wherever registered, shall not be used within the State for aerial work without the permission of the Authority.

(3) The operator of a commercial transport aircraft shall be responsible for the operational control of each aircraft operated by that operator and shall ensure the safety of all persons who board an aircraft so operated with the intention of making a flight therein and shall comply with the appropriate requirements of this Order and the applicable Joint Aviation Requirements in respect of the operation of that aircraft.

(4) The operator of a commercial transport aircraft shall ensure that there is on board that aircraft for every flight a checklist of procedures to be followed in searching for a bomb in case of suspected aircraft sabotage and for inspecting aircraft for concealed weapons, explosives or other dangerous devices when a well founded suspicion exists that any such might be present on board that aircraft. The checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least-risk bomb location specific to the aircraft.

(5) (a) The operator of a commercial transport aircraft shall establish and maintain an accident prevention and flight safety programme for the aircraft operations under the operator's control. In the case of an aircraft with a certificated take-off mass of more than 27,000 kg, the operator shall establish and maintain a flight data analysis programme as part of the accident prevention and flight safety programme which shall be non-punitive and adequately safeguarded to protect the identity of persons involved in relation to the sources of the data.

(b) The operator of a commercial transport aircraft shall establish a flight safety documents system for the use and guidance of operational personnel which shall be so organised as to provide easy access to flight and ground operations information within that system as well as to effectively manage the distribution and revision of operational documents.

(6) The operator of a commercial transport aircraft, who is the holder of a current air operator's certificate issued by the Authority, shall comply with all of the appropriate requirements of the Order and the provisions of the applicable Joint Aviation Requirements.

Pilot-in-command's duties in certain emergencies

10. (1) Where an emergency occurs during flight time which endangers the safety of an aircraft or of any person therein and necessitates the taking of action involving a violation by any crew member of regulations or procedures in force in the airspace in which that aircraft is flying, the pilot-in-command shall notify the appropriate authority, without delay, of the violation, and shall submit a written report on the violation and the reason therefor to the Authority in all cases and also to the appropriate authority of the state in or over which the violation occurs, if that state requires such a report.

(2) A copy of a report referred to in paragraph (1) of this Article shall be submitted to the Authority by the pilot-in-command concerned as soon after the occurrence of the emergency as may be reasonably practicable and where possible within ten days of such occurrence.

(3) (a) Subject to subparagraph (b) of this paragraph, if an aircraft in flight (or such of its equipment as is necessary for the airworthiness of the aircraft) sustains a defect affecting the safety of the aircraft, the aircraft shall land at the earliest safe opportunity and shall not fly again unless a certificate of release to service relating to the rectification of the defect has been issued under the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003;

(b) Where, in the case of an aircraft having more than two engines, any engine loses power or has to be shut down, the pilot-in-command of that aircraft:

(i) may, instead of landing at the earliest safe opportunity, decide to land at a suitable convenient aerodrome, and

(ii) shall report, as soon as practicable after the occurrence, to the appropriate air traffic control unit the loss of power and his or her decision to land at a suitable aerodrome and shall thereafter keep air traffic control fully informed of the progress of the flight;

(c) The pilot-in-command of an aircraft shall not decide to land at a suitable convenient aerodrome instead of landing at the earliest safe opportunity unless he or she is satisfied that the course adopted is as safe as landing at the earliest safe opportunity and he or she has taken into account factors which may affect the safety of the aircraft including:

(i) the nature of the malfunction of the engine which caused the loss of power,

(ii) any possible mechanical difficulties which may result from the continuation of the flight,

(iii) the altitude and mass of the aircraft,

(iv) the amount of fuel remaining in the aircraft,

(v) the weather conditions en route and at any suitable convenient aerodrome,

(vi) the density of the air traffic in and about any suitable convenient aerodrome,

(vii) the nature of the terrain to be overflown, and

(viii) the familiarity of the flight crew with conditions in and about any suitable convenient aerodrome;

(d) Whenever a pilot-in-command of an aircraft lands that aircraft at a suitable convenient aerodrome instead of at the earliest safe opportunity, he or she shall, as soon as is reasonably practicable, furnish the operator, or if there is otherwise no operator, the Authority, with a report in writing stating the reasons for the decision to land at the selected aerodrome rather than at the earliest safe opportunity;

(e) Whenever the operator is furnished with a report pursuant to subparagraph (d) of this Article, the operator shall, within ten days of the receipt of the report, furnish the Authority with a copy of the report together with any observations the operator may wish to make on the report.

Carriage of explosives and dangerous goods

11. (1) The carriage of explosive substances and other dangerous goods in an aircraft shall be conducted generally in accordance with the Standards and Recommended Practices of Annex 18 to the Convention and its associated Technical Instructions and in compliance with the provisions of this Order, the Air Navigation (Carriage of Munitions of War, Weapons and Dangerous Goods) Orders, 1973 and 1979 and any applicable Directions under those Orders and, for a commercial transport operator certificated by the Authority, in accordance with the applicable Joint Aviation Requirements.

(2) The operator of a commercial transport aircraft and, in respect of subparagraph (a) of this paragraph, the pilot–in-command of an aircraft shall:

(a) ensure that dangerous goods are not carried in an aircraft cabin occupied by passengers or on the flight deck of an aircraft except in circumstances permitted by the provisions of the Technical Instructions referred to in paragraph (1) of this Article;

(b) provide the pilot-in-command as early as practicable before departure of the aircraft carrying such goods with written information as specified in the technical instructions referred to in paragraph (1) of this Article;

(c) provide such information in the Operations Manual as will enable the flight crew to carry out its responsibilities with regard to the carriage of dangerous goods and shall provide instructions as to the action to be taken in the event of emergencies arising involving dangerous goods;

(d) in the event of an aircraft accident or incident, provide information without delay to emergency personnel responding to the accident or incident about the dangerous goods on board as shown on the written information to the pilot-in-command;

(e) promulgate information to intending passengers in such a manner that they are warned as to the types of dangerous goods which a person is forbidden from transporting aboard an aircraft as provided for in the Technical Instructions as referred to in paragraph (1) of this Article.

Information on search and rescue services

12. (1) The pilot-in-command shall have available on the aircraft or shall determine all essential information concerning all search services and all rescue services in the area over which the aircraft will be flying.

(2) In the case of a commercial transport aircraft, the operator shall ensure that such information is made available to the pilot-in-command, either in the Operations Manual, or by such other means as the Authority considers appropriate or as required by the applicable Joint Aviation Requirements.

Carriage of passengers on test flights prohibited

13. (1) The operator of a commercial transport aircraft and the pilot-in-command of an aircraft shall ensure that a person (other than a required flight crew member or a person authorised by the Authority) is not carried in an aircraft engaged on a test flight unless the carriage of that person is necessary or desirable for the purpose of, or in connection with, the test flight and is authorised by the operator and by the pilot-in-command.

(2) In this article "test flight" means a flight for the purpose of proving the airworthiness of an aircraft or of its equipment.

Smoking in aircraft

14. (1) The pilot-in-command of an aircraft or the operator of a commercial transport aircraft shall take reasonable steps to ensure that smoking is prohibited in that aircraft as follows:

(a) if and in so far as smoking is prohibited by the certificate of airworthiness or the flight manual of such aircraft;

(b) in any circumstances when smoking might endanger the safety of the aircraft;

(c) in order to comply with an ICAO recommendation endorsed by the State.

(2) The pilot-in-command of an aircraft or the operator of a commercial transport aircraft shall take reasonable steps to ensure that instructions indicating when smoking is prohibited in any compartment of that aircraft are conveyed to all persons in that compartment.

(3) A person shall not smoke in a compartment of an aircraft when smoking is prohibited in that compartment by an instruction to that effect given by or on behalf of the pilot-in-command.

(4) A person who is not authorised by the pilot-in-command or the operator of an aircraft shall not tamper with or interfere with smoke or fire detection or fire extinguishing equipment in an aircraft compartment.

Keeping of logbooks and records

15. (1) The operator of a commercial transport aircraft shall keep a logbook, in this Order referred to as a journey logbook, and shall comply with the applicable Joint Aviation Requirements in respect of the keeping of such a logbook which shall contain the particulars set out in paragraph 1 of the Second Schedule to this Order and shall preserve such records for a period of not less than six months beginning on the date of the last entry or such other period as may be required by the applicable Joint Aviation Requirements.

(2) The operator of a commercial transport aircraft shall, in respect of any flight by that aircraft during which it may fly to an altitude of more than 49,000 feet, maintain records so that the total cosmic radiation dose received by each crew member over a period of twelve consecutive months can be estimated or determined. An operator shall also preserve such records in each case for twelve months after a crew member has left the operator's organisation.

Keeping of entries

16. An entry made in a journey logbook or any other record required to be kept under this Order shall be indelible and shall be kept up to date and in accordance with the applicable Joint Aviation Requirements.

Alteration of entries or making false entries

17. A person shall not:

(1) mutilate, alter or render illegible any journey logbook or other record, required to be kept under this Order or any entry made in any such logbook or record, or destroy any such logbook or record during the period for which it is required under this Order to be preserved;

(2) wilfully make, or procure to be made, or assist in the making of any false entry in, or material omission from, any journey logbook or any other record kept, or required to be kept, under this Order.

Documents to be carried on aircraft

18. (1) An aircraft shall not fly unless it has on board the documents which are required to be on board under the law of the state in which it is registered and which shall include, in the case of an aircraft registered elsewhere than in the State, the documents specified in this Article under sub-paragraph (3)(a) for any aircraft and for a commercial transport aircraft the documents (or their equivalents) required by Annex 6 to the Convention under sub-paragraph (3)(b), and for an aerial work aircraft, the documents specified in subparagraph (3)(c)(ii).

(2) An aircraft shall, when in flight, have on board documents in accordance with paragraph (3) of this Article; provided that, if the flight is intended to begin and end at the same aerodrome or heliport without passing over the territory of any other state, the documents specified in subparagraph (a) of the said paragraph (3) may be kept at that aerodrome or heliport.

(3) Subject to the proviso in paragraph (2) of this Article, it shall be necessary to have on board:

(a) an aircraft when in flight the following documents, that is to say:

(i) the certificates of registration and of airworthiness in force in respect of the aircraft,

(ii) valid licences, with appropriate current ratings, for the flight crew members of the aircraft,

(iii) the flight manual for the aircraft, or other documents acceptable to the Authority as equivalent to the flight manual,

(iv) when cargo is carried, the cargo manifest or such other documents as may be prescribed from time to time as acceptable in lieu thereof,

(v) in the case of an aircraft to which requirements for noise certification by the appropriate authority of a state are applicable, a document in English or with an English translation attesting compliance with such requirements,

(vi) a document specifying the procedures prescribed in Annex 2 to the Chicago Convention for pilots-in-command of intercepted aircraft, and

(vii) a radio station licence;

(b) a commercial transport aircraft when in flight, the following documents:

(i) the documents specified in subparagraph (a) of this paragraph,

(ii) a copy of the Operations Manual, or relevant parts thereof (including all amendments thereto) for the aircraft,

(iii) a copy of the maintenance release in force in respect of the aircraft,

(iv) a copy of the load sheet required by Article 30 of this Order in respect of the flight,

(v) the technical log required by Article 20 of the Irish Aviation Authority (Airworthiness of Aircraft) Order Orders, 1996 to 2003,

(vi) the journey logbook or other record required by Article 15 of this Order,

(vii) check-lists of procedures to be used by crew members during and after all phases of operations and in the event of an emergency and of the procedures to be followed in searching the aircraft in the event of suspected sabotage,

(viii) the operational flight plan,

(ix) the air operator's certificate,

(x) the record of emergency and survival equipment carried; and

(xi) where that aircraft is operated by an operator certificated by the Authority, the documents required by the applicable Joint Aviation Requirements.

(c) an aerial work aircraft when in flight, the following documents, that is to say

(i) the documents specified in subparagraph (a) and in clauses (iii) and (v) of subparagraph (b) of this paragraph;

(ii) a copy of the appropriate permission given by the Authority as required by this Order and the Irish Aviation Authority (Rules of the Air) Order, 2004;

(iii) such other documents as the Authority may require to be carried on a particular flight or flights.

Production of documents

19. (1) The pilot-in-command of an aircraft shall, when required to do so by the appropriate person, produce or cause to be produced to that person such of the documents required by Article 18 of this Order to be on board the aircraft in flight as that person requests to be produced.

(2) The owner or operator of an aircraft registered in the State shall, after being required to do so by the appropriate person, produce or cause to be produced to that person for inspection by that person such of the following documents as that person requests to be produced:

(a) any certificates, logbooks, other records or other documents relating to the aircraft which are required under this Order or under the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003, to be in force, carried on board the aircraft or kept or preserved; and

(b) any other documents and information in the possession or under the control of the operator which the appropriate person may require for the purpose of determining whether the logbooks or records referred to in subparagraph (a) of this paragraph are complete and accurate.

PART III
FLIGHT OPERATIONS

Operating facilities

20. (1) The operator of a commercial transport aircraft and the pilot-in-command of an aircraft shall ensure that a flight shall not be commenced by that aircraft unless it has been previously ascertained by the use of every reasonable means available that the ground facilities and water facilities available, including communication facilities and navigation aids, directly required for such flight for the safe operation of the aircraft and the protection of the passengers, are adequate for the type of operation to be conducted.

(2) In this Article:

"reasonable means" means information available at the point of departure to the operator or pilot-in-command, either through official information published by the aeronautical information service of the state or states concerned or readily obtainable from other sources;

(3) Whenever in the course of operations undertaken by an operator, facilities or aids are encountered which that operator considers to be inadequate, the operator shall report the inadequacy to the person or authority immediately responsible for those facilities.

Taxiing of Aircraft

21. An aircraft to which this Order applies shall not be taxied on the movement area of an aerodrome unless the person at the controls has been duly authorised by the operator, if a commercial transport aircraft, or the owner of any other aircraft or, in the case where it is leased, the lessee or a designated agent, and is competent to do so and to use the radio equipment if communications are required, and has received instruction from a competent person in respect of the aerodrome layout and, where appropriate, information on routes, signs, marking, lights, ATC signals and instructions phraseology and procedures and is able to conform to the operational standards required for safe aircraft movement at the aerodrome. A helicopter rotor shall not be turned under power without a qualified pilot at the controls.

Operator's duties regarding supervision of flight operations

22. (1) The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements in respect of operational procedures and the supervision of flight operations including ground handling and shall:

(a) establish and maintain a method (which shall be subject to the approval of the Authority) of supervision of flight operations, and shall appoint a suitably qualified person, acceptable to the Authority, as a flight operations officer, with overall responsibility for the supervision of flight operations and, where necessary, additional suitably qualified person(s) as flight operations officer(s) to implement control of flight operations;

(b) ensure that a person employed by that operator in accordance with paragraph (a) of this Article shall have attained a standard of technical competence acceptable to the Authority and shall:

(i) prior to such employment, demonstrate satisfactorily to the operator knowledge of and ability to perform the duties assigned to him or her in the geographical areas where he or she is authorised to exercise flight supervision including a knowledge of the contents of the operator's Operations Manual, the performance characteristics and limitations of radio and navigation equipment of each aircraft type in use, the seasonal meteorological conditions with the sources of that information and their effects on radio reception in the aircraft used and the aircraft loading instructions;

(ii) prior to such employment, have made within the preceding twelve months a qualification flight in the cockpit of an aeroplane over any area in which that individual will be authorised to exercise flight supervision including landings at as many aerodromes as practicable;

(iii) during the period of employment as a flight operations supervisor, maintain complete familiarisation with all operational matters pertaining to his or her duties; and

(iv) if he or she is absent from such duties for more than twelve consecutive months, demonstrate his or her knowledge and ability as aforesaid prior to again being employed on the duties of a flight operations supervisor.

(c) ensure that a person appointed by that operator with overall responsibility for the supervision of flight operations in accordance with paragraph (a) of this Article shall, while so appointed, have responsibility and independent authority to exercise control over the flight operations concerned and over any other flight operations officers also appointed by the operator.

(2) A person, whether or not employed by or working for the operator concerned, shall not, in relation to flight operations, purport to act for, interfere with or impose upon the person appointed in accordance with sub-paragraph (a) of paragraph (1) of this Article to exercise supervision over those flight operations.

Operations Manual

23. The operator of a commercial transport aircraft shall comply with the requirements of this Order and the provisions of the applicable Joint Aviation Requirements in respect of Operations Manuals, Operations personnel and checklists and shall:

(1) (a) provide for the use and guidance of the flight crew and cabin crew members and operations personnel concerned a document which shall be known and in this Order is referred to as the Operations Manual which may comprise one or more than one volume and shall contain the particulars set out in paragraph 2 of the Second Schedule to this Order,

(b) provide a copy of the Operations Manual, together with all the amendments and revisions which may be made to it from time to time, to the Authority for acceptance or any necessary approvals;

(2) ensure that the Operations Manual is revised as may be necessary:

(a) by reason of any change affecting the operation of the aircraft or its equipment,

(b) in order to ensure that the information contained therein is the most recent information available, or

(c) if required by the Authority;

(3) ensure that all revisions made in the Operations Manual pursuant to paragraph (2) of this Article are supplied to each holder of the Operations Manual;

(4) (a) ensure that all flight crew and cabin crew members and operations personnel are fully instructed as to their respective duties and responsibilities and as to the relationship to the operation as a whole of their respective duties and responsibilities;

(b) ensure and so instruct flight crews and operations personnel that, when passengers are being carried, emergency situations affecting the flight characteristics of the aircraft shall not be simulated;

(5) establish a checklist system which shall be used by the flight crew during all phases of operations, and in the case of emergency, for the purpose of ensuring that the operating procedures, specified in the aircraft operating manual and in the flight manual or other documents associated with the certificate of airworthiness and acceptable to the Authority as equivalent to the flight manual, and otherwise in the Operations Manual, are complied with. The design and utilisation of the checklists shall observe human factors principles.

Minimum flight altitudes

24. (1) The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements in respect of minimum flight altitudes for any flight and shall:

(a) in respect of scheduled flights and routes in frequent use in operations other than scheduled flights, establish and specify in the Operations Manual, in accordance with Article 25 of this Order, altitudes referred to as minimum flight altitudes for each route flown; and

(b) in respect of routes not in frequent use in operations other than scheduled flights, establish and specify in the Operations Manual a method by which minimum flight altitudes for each route to be flown shall be determined where these have not been determined by the appropriate authority.

(2) A minimum flight altitude established or determined in accordance with this Article:

(a) shall not be lower than any corresponding minimum flight altitude established by the appropriate authority save where the appropriate authority specifically approves such a deviation,

(b) shall not be lower than the minimum level for Instrument Flight Rules (IFR) flights as specified in the Irish Aviation Authority (Rules of the Air) Order, 2004.

(3) The pilot-in-command of an aircraft shall observe the minimum flight altitudes, if any, established by the appropriate authority of the state over which the aircraft is flying.

Establishment of minimum flight altitudes and approval by Authority

25. (1) The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements when establishing minimum flight altitudes and the method by which minimum flight altitudes shall be determined and shall take into consideration all relevant factors affecting the safety of the operation concerned, including:

(a) the accuracy and reliability with which the position of the aircraft can be determined;

(b) the probable inaccuracies in the indications given by the altimeters used;

(c) the characteristics of the terrain along the route, with particular reference to any abrupt changes in elevations;

(d) the probability of encountering unfavourable meteorological conditions and the likelihood of severe turbulence and descending air currents;

(e) possible inaccuracies in aeronautical charts; and

(f) airspace restrictions.

(2) Minimum flight altitudes or the method by which minimum flight altitudes are determined as the case may be, shall, in the case of flights by a commercial transport aircraft subject to this Order, be approved by the Authority.

Determination of aerodrome or heliport operating minima

26. (1) The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements for the determination and specification of aerodrome or heliport operating minima and shall:

(a) in respect of scheduled flights, determine and specify in the Operations Manual minimum conditions, in this Order referred to as aerodrome or heliport operating minima;

(b) in respect of operations other than scheduled flights, establish and specify in the Operations Manual a method by which aerodrome or heliport operating minima shall be determined, for each aerodrome or heliport on the routes to be flown which will be, or is likely to be, used in those operations as an aerodrome or heliport of intended landing or as an alternate aerodrome or heliport which, being suitable, may require to be used in an emergency, provided that:

(i) if a route is in frequent use, the aerodrome or heliport operating minima for each such aerodrome on that route shall be determined by the operator and specified in the Operations Manual,

(ii) the method by which it is proposed to determine the aerodrome or heliport operating minima shall be submitted to the Authority for approval and shall not be specified in the Operations Manual unless so approved, and

(iii) for instrument approach and landing operations, aerodrome or heliport operating minima shall not be authorised below 800m visibility unless RVR information is available at the aerodrome or heliport concerned, or, in the case of a helicopter operation, an alternative accurate measurement or observation of visibility to RVR is provided.

(2) When determining values of aerodrome or heliport operating minima to apply in any particular circumstances or establishing a method by which aerodrome or heliport operating minima shall be determined, the operator shall take into consideration all relevant factors, including:

(a) the type, performance and handling characteristics of the aircraft concerned;

(b) the composition of the flight crew, their competence and experience;

(c) the dimensions and characteristics of runways used;

(d) the adequacy and performance of the available visual and non-visual ground aids;

(e) the equipment available in the aircraft for the purpose of navigation and control of the flight path during the approach to landing and in a missed approach;

(f) the obstacles in the approach, missed approach and take-off areas and the obstacle clearance limit for the instrument approach procedure;

(g) the means used to measure and report meteorological conditions;

(h) the obstacles in the climb out area and necessary clearance margins.

(3) The aerodrome or heliport operating minima determined for any aerodrome or heliport in accordance with this Article shall not be lower than the aerodrome or heliport operating minima (if any) established for that aerodrome or heliport by the appropriate authority unless the aerodrome or heliport operating minima so determined have been expressly approved by that appropriate authority.

(4) The operator of a commercial transport aircraft who is not an operator certificated by the Authority shall not operate that aircraft within the State unless that operator shall have provided to the Authority any information which it may from time to time require relating to that operator's aerodrome or heliport operating minima within the State; and if the Authority requires any changes in those minima, such an operator shall not operate such aircraft until those changes have been effected.

(5) An operator shall establish operational procedures designed to ensure that an aircraft being used to conduct precision approaches crosses the runway threshold by a safe margin with the aircraft in the landing configuration and attitude.

(6) The pilot-in-command of an aircraft shall not operate that aircraft to or from an aerodrome or heliport using operating minima lower than those which may be established for that aerodrome or heliport by the state in which it is located except with the specific approval of the appropriate authority of that state.

Fuel and oil records

27. (1) The operator of a commercial transport aircraft shall maintain such records of fuel and oil as will satisfy the Authority that for each flight the requirements of Articles 33 to 37 of this Order have been complied with.

(2) Records under this paragraph shall be preserved by the operator for a period of at least three months beginning on the date of the flight to which they relate or as otherwise required by the applicable Joint Aviation Requirements.

Crew members and passengers

28. (1) The operator of a commercial transport aircraft shall comply with the provisions of the applicable Joint Aviation Requirements in respect of crew members and passengers and shall:

(a) for each flight designate one pilot to act as pilot-in-command or commander of the aircraft;

(b) maintain and submit to the Authority on request current records of the flight time, flight duty periods, duty time and rest periods of each flight crew and cabin crew member and these records shall be preserved by the operator for a period of not less than fifteen months beginning on the completion of the flight time, flight duty period or rest period to which the record relates;

(c) not cause or permit an aircraft to make a flight unless that operator has formulated and included in the Operations Manual a scheme of rules, approved by the Authority, limiting the flight time, flight duty periods and overall duty time of the flight crew members and cabin crew members of the aircraft being operated, providing for adequate rest periods for those personnel and ensuring that fatigue will not occur to any such person, either on a flight or successive flights or accumulated over a period of time by reason of the tasks connected (either directly or indirectly) with such flight or flights, such as to endanger the safety of a flight. The Authority may prescribe flight time limitations of a general or specific nature which shall be complied with by an operator formulating such rules and by the persons to whom they apply;

(d) maintain, for each flight of an aircraft above 15,000 metres (49,000 ft), a record so that the total cosmic radiation dose received by each crew member over a period of twelve consecutive months can be determined;

(e) ensure that, except as may be otherwise prescribed by the Authority, seat belts or harnesses shall be made available for each crew member;

(f) establish compliance by each person flying in an aircraft as a crew member of that aircraft with the applicable flight time limitations rules approved by the Authority under sub-paragraph (c) of this paragraph and shall report any detected non-compliances to the Authority and shall ensure that the rostering of flight and cabin crew for duty does not result in conflict with those rules in the case of any flight crew or cabin crew member.

(g) not cause or permit any person to fly therein as a member of its crew if the operator knows or has reason to believe, whether based on the judgement of a pilot-in-command of an aircraft in a particular case or otherwise, that the person is suffering from, or having regard to the circumstances of the flight be undertaken, is likely to suffer from fatigue.

(2) The operator of a commercial transport aircraft shall ensure that all passengers on board that aircraft are briefed in accordance with the applicable Joint Aviation Requirements and the pilot-in-command of an aircraft shall ensure that:

(a) (i) all passengers are made familiar with the position and method of use of seat belts or safety harnesses, emergency exits, life jackets, passenger oxygen dispensing equipment and other emergency equipment provided on board an aircraft for individual use, including passenger briefing cards,

(ii) all passengers are informed of the location and general manner of use of the principal emergency equipment carried for collective use;

(b) in an emergency during flight, all passengers are instructed in the emergency action which they should take as appropriate to the circumstances;

(c) prior to and during each take-off and each landing and whenever, by reason of turbulent air conditions or any emergency during flight, the precaution is considered necessary, all passengers on board an aircraft are secured in their seats by means of the seat belts or safety harnesses provided.

(4) In this Article "harness" includes a seat belt which may be used independently and includes shoulder restraint.

(5) A helicopter which is intended to be flown over water shall be equipped for ditching as specified in the First Schedule to this Order.

Flight preparation

29. (1) An aircraft shall not commence a flight unless and until the pilot-in-command has satisfied himself or herself that:

(a) the flight can be safely made, taking into consideration the latest information available as to route and aerodromes or heliports to be used, the weather reports and forecasts available, and any alternative course of action which can be adopted in case the flight cannot be completed as planned;

(b) the aircraft is airworthy, and any necessary maintenance work has been performed in accordance with Part VIII of this Order;

(c) the instruments, equipment and safety devices required by Part V of this Order for the particular type of operation to be undertaken are installed and are adequate for the flight and that the communication and navigation equipment required by Part VI of this Order is in working order;

(d) the mass of the aircraft and its centre-of-gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected and any load carried is properly distributed and safely secured;

(e) Part IV of this Order is or will be complied with in respect of the Operating Limitations for the flight to be undertaken;

(f) the view of the pilot-in-command is not interfered with by any obstruction not forming part of the structure of the aircraft and is not obscured by any discoloration of, damage to, or deposit on any of the windows, windscreens or side screens of the aircraft; provided that nothing in this subparagraph shall preclude the use of screens or other devices in aircraft used for training in instrument flying;

(g) sufficient fuel and oil are carried for the proposed flight;

(h) the supply of electricity is adequate for the operation of such of the electrical equipment installed in the aircraft as will be used on the flight;

(i) a flight to be planned or expected to operate in suspected or known ground icing conditions shall not take off unless the aircraft has been inspected for icing and, if necessary, has been given appropriate de-icing or anti-icing treatment. An accumulation of ice or other naturally occurring contaminants on the aircraft shall be removed so that the aircraft is kept in an airworthy condition prior to take-off.

(2) The commander of a commercial transport aircraft shall not commence a flight unless and until documents which shall be known, and in this Order are referred to, as flight preparation forms have been completed certifying that the pilot-in-command has satisfied himself or herself:

(a) with regard to the matters specified in paragraph (1) of this Article;

(b) that a maintenance release as required by Article 18 of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 is in force in respect of the aircraft and will not normally cease to be in force during the intended flight;

(c) that the quantities of fuel and oil have been computed in accordance with Articles 33 to 37 of this Order, as applicable;

(3) The commander of a commercial transport aircraft shall not commence a flight unless the requirements of Article 31 of this Order have been complied with.

Loading of aircraft

30. (1) The operator of a commercial transport aircraft shall not cause or permit it to be loaded for a flight or shall not cause or permit any load to be suspended from such aircraft except in compliance with the applicable Joint Aviation Requirements and under the supervision of a suitably trained person whom that operator has caused to be furnished with written instructions, which shall be approved by the Authority, as to the distribution and securing of the load so as to ensure that:

(a) the load may safely be carried on the flight; and

(b) any conditions subject to which the certificate of airworthiness in force in respect of the aircraft was issued or rendered valid (being conditions relating to the loading of the aircraft) are complied with.

(2) The instructions referred to in paragraph (1) of this Article shall indicate:

(a) the mass of the aircraft prepared for service, that is to say, the aggregate of the mass of the aircraft, as shown in the mass schedule referred to in Article 23 of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 and the mass of such additional items in or on the aircraft as the operator thinks fit to include;

(b) any additional items included in the mass of the aircraft prepared for service; and

(c) the position of the centre of gravity of the aircraft at that mass.

(3) The operator of a commercial transport aircraft shall not cause or permit that aircraft to be loaded in contravention of the instructions referred to in paragraph (1) of this Article.

(4) The pilot-in-command of a commercial transport aircraft shall not fly or attempt to fly unless:

(a) the written instructions, referred to in paragraph (1) of this Article, in respect of the aircraft are available to the person superintending the loading of that aircraft;

(b) the loading of the aircraft for the proposed flight has been completed in accordance with such instructions;

(c) the person superintending the loading of the aircraft for the proposed flight has prepared, certified and dated a document in duplicate which shall be known, and in this Order is referred to, as a load sheet containing the particulars specified in paragraph (5) of this Article; and

(d) the load sheet has been submitted to the pilot-in-command of the aircraft and has been examined by him or her for the purpose of complying with subparagraph (d) of paragraph (1) of Article 29 of this Order.

(5) The load sheet prepared in accordance with this Article shall contain:

(a) the nationality and registration marks of the aircraft;

(b) sufficient information to enable the particular flight to be readily identified;

(c) particulars of the several masses from which the total mass of the aircraft as loaded has been computed;

and

(d) a certificate by the person superintending the loading of the aircraft that the load has been distributed in accordance with the instructions referred to in clause (a) of paragraph (4) of this Article and approved by the Authority in respect of the aircraft.

(6) The particulars referred to in paragraph (5)(c) of this Article shall be computed in a manner acceptable to the Authority or as required by the applicable Joint Aviation Requirements.

(7) One copy of the load sheet shall be preserved by the operator for a period of six months beginning on the completion of the flight to which the load sheet relates or as otherwise specified in the applicable Joint Aviation requirements.

(8) In this Article "the person superintending the loading of the aircraft" means the person who collates all mass information for the preparation of the load sheet and determines the mass of the aircraft and the distribution of the load for the purpose of compliance with subparagraph (d) of paragraph (1) of Article 29 of this Order.

(9) The operator shall ensure that all baggage carried onto an aircraft and taken into the passenger cabin is adequately and securely stowed during flight.

Operational flight plan and alternate aerodromes or heliports

31. (1) A document, which shall be known and in this Order is referred to as an operational flight plan, shall be completed in respect of every intended flight by a commercial transport aircraft for the purpose of indicating that the flight can be conducted with safety and that Articles 32 to 37 of this Order have been complied with.

(2) The operational flight plan shall be approved and certified by the pilot-in-command and also certified, where applicable, by a flight operations officer employed by or working for that operator and a copy of it shall be deposited with the operator, the operator's agent or the aerodrome authority or, where this is not possible, shall be deposited in such a place at the point of departure as to be readily available if required.

(3) (a) The operational flight plan, and the flight plan where one is required in accordance with Rule 23 of the Irish Aviation Authority (Rules of the Air) Order, 2004, shall, whenever any part of the flight has to be made in weather conditions necessitating compliance with instrument flight rules, include the name of at least one alternate aerodrome or heliport unless the aerodrome or heliport of intended landing is isolated and no suitable alternate aerodrome or heliport is available;

(b) Unless specified in the Operations Manual or in other suitable documents carried on the flight, the operational flight plan of a commercial transport aircraft engaged in an operation other than scheduled flights shall include, in addition to the matter specified in subparagraph (a) of this paragraph:

(i) the minimum flight altitudes for the route to be flown, and

(ii) the aerodrome or heliport operating minima for the aerodrome or heliport to be used and for any alternate aerodrome or heliport designated in the operational flight plan.

(4) (a) A take-off alternate aerodrome shall be selected and specified in the operational flight plan if the weather conditions at the aerodrome of departure are at or below the applicable aerodrome operating minima or it would not be possible to return to the aerodrome of departure for other reasons;

(b) A take-off alternate aerodrome shall be located within a distance from the aerodrome of departure equivalent to not more than one hour flight time for a twin engine aeroplane or two hours for an aeroplane with three or more powerplants, both at the one-engine inoperative cruise speed;

(c) A take-off alternate aerodrome shall be selected such that the available information indicates that, at the estimated time of use the conditions will be at or above the aerodrome operating minima for the operation;

(d) An en-route alternate aerodrome or aerodromes as required by Article 43 for extended range operations for aeroplanes with twin turbine power units shall be selected and specified in the operational and air traffic services (ATS) flight plans;

(e) At least one destination alternate aerodrome for aeroplane operations or alternate heliport for helicopter operations shall be selected and specified in the operational and air traffic services (ATS) flight plans for a flight to be conducted in accordance with instrument flight rules unless:

(i) the duration of the flight and the meteorological conditions prevailing are such that there is a reasonable certainty that, at the estimated time of arrival at the aerodrome or heliport of intended landing and for a reasonable time before and after such time, the approach and landing may be made under visual meteorological conditions;

(ii) the aerodrome or heliport of intended landing is isolated and there is no suitable destination alternate aerodrome available provided that a point of no return shall be determined for helicopter operations, or

(iii) suitable off-shore alternate heliports are specified for helicopter operations subject to the following criteria:

- the offshore alternates will be used only after a point of no return. Prior to the point of no return, on-shore alternates shall be used,
- the mechanical reliability of critical control systems and components on the helicopter shall be considered and taken into account when determining the suitability of alternate heliports,
- the ability of the helicopter to safely land with one engine inoperative shall be attainable prior to its arrival at the alternate heliport,
- helicopter deck availability shall be guaranteed at the alternate heliport,
- accurate and reliable weather information must be available.

Weather conditions – All Aircraft

32. (1) An aircraft shall not commence a flight, except one of purely local character in visual meteorological conditions, which is to be conducted in accordance with visual flight rules, unless the meteorological information, including meteorological reports or a combination of current reports and forecasts most recently available from the appropriate meteorological office, indicates that the meteorological conditions along the route or that part of the route to be flown under the visual flight rules, will, at the appropriate time, be such as to make it possible for the flight to be conducted in accordance with visual flight rules.

(2) A flight to be conducted in accordance with instrument flight rules shall not be commenced unless the available information indicates that conditions at the aerodrome or heliport of intended landing and at least one destination alternate aerodrome or heliport will, at the estimated time of arrival, be at or above the aerodrome operating minima.

(3) A flight to be conducted in accordance with instrument flight rules to an aerodrome when no alternate aerodrome or heliport is required shall not be commenced unless:

(a) a standard instrument approach procedure is prescribed for the aerodrome or heliport of intended landing; and

(b) available current meteorological information indicates that the following meteorological conditions will exist from two hours before to two hours after the estimated time of arrival:

(i) a cloudbase of at least 300m (1,000 ft) for an aeroplane and 120m (400 ft) for a helicopter above the minimum associated with an instrument approach procedure, and

(ii) visibility of at least 5.5 km, or of 4 km more than the minimum associated with the procedure for an aeroplane and at least 1.5 km more than the minimum associated with the procedure for a helicopter.

(4) A flight shall not be continued towards the aerodrome or heliport of intended landing unless the latest available meteorological information indicates that conditions at that aerodrome, or at least one destination alternate aerodrome or heliport will, at the estimated time of arrival, be at or above the specified aerodrome operating minima.

(5) An aircraft shall not continue its approach to land, except in the case of emergency, beyond a point at which the limits of the aerodrome or heliport operating minima would be infringed.

(6) An aircraft shall not commence a flight which would be operating in known or expected icing conditions unless the aircraft is equipped and certificated to cope with those conditions.

(7) At least one destination alternate aerodrome or an alternate heliport shall be selected and specified in the flight plan for a flight to be conducted in accordance with Instrument Flight Rules, unless:

(a) the duration of the flight and the meteorological conditions prevailing are such that there is reasonable certainty that, at the estimated time of arrival at the aerodrome or heliport of intended landing and for a reasonable period before and after such time, the approach and landing may be made under visual meteorological conditions; or

(b) the aerodrome or heliport of intended landing is isolated and there is no suitable destination alternate aerodrome or alternate heliport available.

Fuel and oil supply – all aircraft

33. The pilot-in-command of an aircraft shall ensure that:

(1) a flight shall not be commenced unless, taking into account the meteorological conditions and any delays that may reasonably be expected in flight, the aircraft has on board sufficient fuel and oil to ensure that it can complete the flight in safety;

and

(2) in addition to the fuel and oil required under paragraph (1) of this Article, a reserve supply of fuel and oil shall be carried in order to provide for contingencies and when an alternate aerodrome or heliport is included in the operational flight plan in accordance with Article 31 of this Order, to enable the aircraft to reach the alternate aerodrome or heliport.

Fuel and oil supply – commercial transport aircraft and all helicopters

34. (1) The fuel and oil required to be carried pursuant to Article 33 in the case of a commercial transport aircraft shall be at least the quantity computed in accordance with the instructions specified in the Operations Manual and in compliance with the applicable Joint Aviation Requirements.

(2) In case an aeroplane is powered by piston-type engines or by propeller turbine engines the fuel and oil to be carried pursuant to Article 33 shall be at least the quantity sufficient to enable the aircraft:

(a) if an alternate aerodrome is not required under paragraph (4) of Article 31 of this Order, to fly to the aerodrome of intended landing, and thereafter for a period of 45 minutes;

(b) if an alternate aerodrome is required under paragraph (4) of Article 31 of this Order, either

(i) to fly to the aerodrome of intended landing, thence to the most critical (in terms of fuel consumption) alternate aerodrome specified in the operational flight plan and thereafter for a period of 45 minutes,

or

(ii) to fly to the alternate aerodrome by way of any predetermined point and thereafter for 45 minutes: provided that this quantity shall not be less than the quantity required to fly to the aerodrome of intended landing and thereafter for either 45 minutes and fifteen per cent of the flight time planned to be spent at the cruising levels or two hours, whichever is the shorter;

(c) where the aerodrome of intended landing is so situated that no suitable alternate aerodrome is available, to fly to the aerodrome of intended landing and thereafter for whichever of the following periods is the shorter:

(i) 45 minutes and fifteen per cent of the flight time planned to be spent at the cruising levels, or

(ii) two hours.

(3) In case an aeroplane is powered by turbo-jet engines the fuel and oil to be carried pursuant to Article 33 shall be at least the quantity sufficient to enable the aircraft:

(a) if an alternate aerodrome is not required under paragraph (4) of Article 31 of this Order, to fly to and land at the aerodrome of intended landing and additionally:

(i) to fly for 30 minutes at holding speed at 450m (1500 ft) above the destination aerodrome under standard temperature conditions, and

(ii) to have an additional quantity of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority;

(b) if an alternate aerodrome is required under paragraph (4) of Article 31 of this Order, either:

(i) to fly to and execute an approach, and a missed approach, at the aerodrome of intended landing, and, thereafter, to fly to the alternate aerodrome specified in the flight plan and then to fly for 30 minutes at holding speed at 450m (1,500 ft) above the alternate aerodrome under standard temperature conditions and approach and land and to have an additional quantity of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority, or

(ii) to fly to the alternate aerodrome by way of any predetermined point and thereafter for 30 minutes at 450m (1,500 ft) above the alternate aerodrome, due provision having been made for an additional quantity of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Authority, provided that the quantity of fuel to be carried shall not be less than the quantity of fuel required to fly to the aerodrome of intended landing and thereafter for two hours at normal cruise consumption;

(c) where the aerodrome of intended landing is so situated that no suitable alternate aerodrome is available, to fly to the aerodrome of intended landing and thereafter for a period of two hours at normal cruise consumption.

(4) (a) In the case of a helicopter operating under visual flight rules (VFR) conditions the fuel and oil carried shall be at least the amount sufficient to enable the helicopter:

(i) to fly to the heliport to which the flight is planned,

(ii) to fly thereafter for a period of 20 minutes at best range speed plus 10 per cent of the planned flight time, and

(iii) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any potential contingencies for the flight concerned;

(b) In the case of a helicopter operating under instrument flight rules (IFR), the fuel and oil carried shall be at least the amount sufficient to enable the helicopter:

(i) when an alternate heliport is not required, to fly to the heliport to which the flight is planned and, thereafter, to fly for 30 minutes at holding speed at 450m (1500 ft) above the destination heliport under standard temperature conditions and approach and land, and to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any potential contingencies for the flight concerned,

(ii) when an alternate heliport is required, to fly to and execute an approach and a missed approach at the destination heliport to which the flight is planned, and thereafter, to fly to the alternate heliport specified in the flight plan and then to fly for 30 minutes at holding speed at 450m (1500 ft) above the alternate heliport under standard temperature conditions and approach and land and to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any potential contingencies for the flight concerned,

(iii) when no suitable alternate heliport is available, to fly to the heliport to which the flight is planned and thereafter for a period of two hours at holding speed.

(5) (a) An aircraft shall not be refuelled when passengers are embarking, on board or disembarking, unless it is properly attended by qualified personnel ready to initiate and direct an evacuation of the aircraft by the most practical and expeditious means available;

(b) When refuelling with passengers embarking, on-board or disembarking, two-way communication using the aircraft inter-communication systems shall be maintained by the ground crew supervising the refuelling with the qualified personnel referred to in subparagraph (a) on board the aircraft;

(c) A helicopter shall not be refuelled when passengers are embarking, on-board, disembarking or when the rotor is turning unless the operator has been granted a specific authorisation by the Authority specifying the conditions under which such fuelling may be carried out;

(d) Smoking shall not be permitted on board or in the vicinity of an aircraft, during refuelling operations.

Fuel and oil supply – aircraft other than commercial transport aircraft

35. In the case of an aircraft which is not a commercial transport aircraft, such an aircraft shall not commence a flight to be conducted in accordance with the Instrument Flight Rules (IFR), unless the quantity of fuel and oil carried on board is sufficient to enable the aircraft to fly to the aerodrome to which the flight is planned, and thence to a destination alternate aerodrome and thereafter for a period of 45 minutes, or when a destination alternate aerodrome is not required, to fly to the aerodrome to which the flight is planned and thereafter for a period of 45 minutes.

Fuel and oil supply – contingency factors – all aircraft

36. In computing the fuel and oil required in order to comply with Article 33 of this Order, at least the following factors shall be taken into consideration by the pilot-in-command of the aircraft concerned:

(a) the meteorological conditions forecast;

(b) expected air traffic control routing and traffic delays;

(c) for IFR flight, making one instrument approach, including a missed approach, at the destination aerodrome or heliport;

(d) the procedures included in the Operations Manual in the case of the loss of pressurisation, where applicable, or the failure of one or more power units en route; and

(e) any other conditions that may delay the landing of the aircraft or increase the fuel or oil consumption.

Fuel and oil supply – amendment of operational flight plan

37. Nothing in Articles 33, 34, 35 and 36 of this Order shall preclude an amendment of an operational flight plan while the aircraft is in flight in order to re-plan the flight to another aerodrome, provided that, from the point at which the flight is re-planned, the provisions of Articles 33, 34, 35 and 36 of this Order, as applicable to the flight concerned, are complied with.

Oxygen supply – commercial transport aircraft

38. In the case of a commercial transport aircraft, the operator shall ensure compliance on all flights with the applicable Joint Aviation Requirements with regard to oxygen supply and:

(a) a flight with any aircraft which is to be operated at altitudes at which the atmospheric pressure in personnel compartments will be lower than 700 hectopascals shall not be commenced unless sufficient stored breathing oxygen is carried to comply with the requirement of paragraph 5(6) of the First Schedule to this Order;

(b) a flight to be operated with a pressurised aircraft shall not be commenced unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and passengers as is appropriate to the circumstances of the said flight in accordance with the requirements of paragraph 5(7) of the First Schedule to this Order.

Safeguarding of cabin crew members and passengers in the event of loss of pressurisation

39. The operator of a pressurised commercial transport aircraft shall ensure that:

(a) crew members assigned to duty in a passenger compartment are safeguarded so that there is a reasonable probability of their retaining consciousness during an emergency descent which may be necessary in the event of loss of pressurisation;

(b) cabin crew members have such means of protection as may enable them to administer first aid to passengers during stabilised flight following an emergency;

(c) passengers are safeguarded by such devices or operational procedures as will ensure reasonable probability of their surviving the effects of hypoxia in the event of loss of pressurisation.

Use of oxygen – all aircraft

40. (1) All flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, shall use continuously the breathing oxygen supplied for their use whenever:

(a) in the case of an unpressurised aircraft, the circumstances specified in paragraph 5 (6) of the First Schedule to this Order prevail for which an oxygen supply is required to be provided for their use; or

(b) in the case of a pressurised aircraft, the pressure in any compartments occupied by them is less than 700 hectopascals.

(2) At all times, when a pressurised aircraft is flying above a flight altitude of 25,000 feet (an atmospheric pressure of less than 376 Hpa) all flight crew members on duty shall have available at their flight duty stations quick-donning oxygen masks which will readily supply oxygen upon demand.

(3) All crew members shall use the oxygen system in accordance with procedures approved by the Authority as appropriate to the aircraft flown and set forth in the flight manual or operating manual for that aircraft.

(4) An aircraft may not be flown above the altitude limits specified in the flight manual.

(5) The operator of a commercial transport aircraft shall ensure compliance with the applicable Joint Aviation Requirements in respect of the supply and use of supplemental oxygen by the passengers and crew on that aircraft.

Oxygen supply – other than commercial transport aircraft

41. In the case of an aircraft other than a commercial transport aircraft, the pilot-in-command shall ensure that breathing oxygen is available to crew members and passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of the faculties of crew members or harmfully affect passengers.

Inflight procedures – aerodrome or heliport operating minima – all aircraft

42. (1) The pilot-in-command of an aircraft shall not continue a flight towards the aerodrome or heliport of intended landing using aerodrome or heliport operating minima lower than those which may be established for that aerodrome or heliport by the appropriate authority of the state in which the aerodrome or heliport is located, except with the approval of that authority or, for a heliport located outside the territory of any state, of the responsible authority.

(2) (a) The pilot-in-command of an aircraft shall not continue an instrument approach beyond the outer marker fix in the case of a precision approach, or below 300m (1000 ft) above the aerodrome or heliport in the case of a non-precision approach, unless the reported visibility or controlling RVR is above the specified minimum.

(b) If, after passing the outer marker fix in the case of a precision approach, or after descending below 300m (1000 ft) above the aerodrome in the case of a non-precision approach, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to the decision altitude or height or to the minimum descent altitude or height, as the case may be, for that approach.

(c) In either case of (a) or (b) of this paragraph, the pilot-in-command of an aircraft shall not continue its approach to land at an aerodrome or heliport beyond a point at which the limits of the aerodrome or heliport operating minima established for that aerodrome or heliport, and applicable to the approach, would be infringed.

(d) In this paragraph, controlling RVR means the reported values of one or more RVR reporting locations used to determine whether operating minima are or are not met. Where RVR is used, the controlling RVR is the touchdown RVR, unless otherwise specified by the appropriate authority of the state in which the aerodrome is located.

(3) An aircraft to which this Order applies shall comply with the instrument flight approach and take-off procedures approved for the aerodrome or heliport concerned by the appropriate authority of the state in which the aerodrome or heliport is located or, by the appropriate authority of the state which is responsible, for a heliport located outside the territory of any state.

Inflight procedures – aerodrome or heliport operating minima – commercial transport aircraft

43. (1) In the case of commercial transport aircraft, a flight shall not be continued towards the aerodrome or heliport of intended landing except in accordance with the applicable Joint Aviation Requirements and unless the latest available information indicates that conditions at that aerodrome or heliport, or at least one destination alternate aerodrome or alternate heliport, will, at the expected time of arrival, be such that a landing can be made in compliance with the aerodrome or heliport operating minima established in accordance with Article 26 of this Order.

(2) In the case of a flight by a commercial transport aircraft on scheduled flights, the aerodrome or heliport operating minima used shall be those which are specified in the Operations Manual in accordance with Article 26(1)(a) of this Order.

(3) In the case of a flight by a commercial transport aircraft on other than scheduled flights, aerodrome or heliport operating minima used shall be those determined by the method specified in the Operations Manual in accordance with Article 26(1)(b) of this Order.

(4) An aeroplane with two turbine power units shall not be operated on a route where the flight time at single engine cruise speed to an adequate en-route alternate aerodrome exceeds 60 minutes unless the operation has been specifically approved by the Authority, having regard to the type of aircraft, the route to be flown, the anticipated operating conditions, the location of adequate en-route alternate aerodromes and, in the case of a commercial transport aeroplane, the applicable Joint Aviation Requirements.

(5) A flight to be conducted in accordance with the preceding sub-paragraph (4) of this Article shall not be commenced, unless, during the possible period of arrival thereat, the required en-route alternate aerodrome or aerodromes will be available and the available information indicates that conditions at that or at those aerodromes will be at or above the aerodrome operating minima approved for the operation.

Observations and reports in flight

44. (1) The pilot-in-command of an aircraft to which this Order applies shall report to the appropriate aeronautical communications station, as soon as possible, any hazardous flight conditions encountered during a flight.

(2) A report under paragraph (1) of this Article shall include such details as may be pertinent to the safety of other aircraft.

(3) The pilot-in-command of an aircraft shall provide meteorological reports to the nearest ATS Unit as required or when weather conditions are encountered which are likely to affect the safety of other aircraft.

Fitness of flight crew members

45. (1) The pilot-in-command of an aircraft shall be responsible for ensuring that a flight:

(a) will not be commenced if, in his or her judgement, any flight crew member is rendered incapable of performing his or her duties by injury, sickness, fatigue, the effects of physcoactive substances or any other cause;

(b) will not be continued beyond an aerodrome at which there is the earliest safe opportunity to land when a flight crew member's capacity to perform his or her functions is significantly impaired by fatigue, sickness, lack of oxygen or any other cause.

(2) The pilot-in-command or a crew member of an aircraft shall not undertake his or her duty while incapable of performing that duty due to the effects of injury, sickness, fatigue or the effects of psychoactive substances and shall comply with the applicable Joint Aviation Requirements in respect of fitness, fatigue, drugs or alcohol and the pilot-in-command shall, furthermore, ensure that such duty is undertaken only within the restrictions of the applicable flight time limitation rules contained in the operator's Operations Manual or prescribed by the Authority and subject to the exercise of judgement by the pilot-in-command, where necessary in a particular case, as required in accordance with subparagraph (a) of paragraph (1) of this Article.

(3) The pilot-in-command or a flight crew member of an aircraft shall ensure, in complying with the flight time limitations rules as specified in paragraph (2) of this Article, that, in computing the aggregate of total flight time for a particular flight duty period or series of flight duty periods, due account is taken of any flight time as a flight crew member or pilot in an aircraft by that person while not on duty with the operator responsible for the flight time limitations rules concerned.

Flight crew members at duty stations

46. (1) During take-off and landing, each flight crew member required to be on duty on the flight deck of an aeroplane shall be at his or her station.

(2) Whilst en route, each flight crew member required to be on duty on the flight deck of an aircraft shall remain at his or her station, except when his or her absence is necessary for the performance of duties in connection with the operation of the aircraft or for physiological needs.

(3) Each flight crew member shall wear and fasten his or her seat belt when at his or her station. During take-off and landing (and whenever required by the pilot-in-command) each flight crew member at his or her station shall wear and fasten his or her safety harness or seat belt, whichever is required by Section 52, except that each flight crew member other than the pilot-in-command and co-pilot may wear and fasten his or her seat belt only, if the harness straps interfere with the performance of his or her duties.

(4) In an aircraft being used for flight instruction or acrobatic flight, the occupants of seats for which safety harness or shoulder straps are provided shall wear and fasten such safety harness or shoulder straps at all times during such flights.

Notification of flight plan change

47. (1) An operational instruction from the operator of a commercial transport aircraft to that aircraft while in flight and which involves a change in the flight plan shall, when practicable, be notified to, and made in agreement with, the appropriate air traffic services unit before transmission to the aircraft. Operational instructions received shall not relieve the pilot-in-command of the aircraft concerned of the responsibility for obtaining an appropriate air traffic control clearance, if applicable, before making a change in flight plan.

(2) In this Article "air traffic services unit" has the meaning assigned to it by the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004.

(3) An aircraft operated in accordance with instrument flight rules (IFR) shall, when approaching and landing at an aerodrome or heliport, comply with the appropriate instrument approach procedures approved by the appropriate authority of the state in which that aerodrome or heliport is located.

(4) Aircraft operating procedures for noise abatement specified by the operator shall, as far as practicable, be the same for all aerodromes or heliports used by that operator's aircraft.

Duties of pilot-in-command

48. (1) The pilot-in-command of a commercial transport aircraft shall, in addition to the requirements specified in Article 45 of this Order, comply with the applicable Joint Aviation Requirements in respect of his or her duties during flight time.

(2) The pilot-in-command of an aircraft shall also be responsible for the following:

(a) the safety of all crew members, passengers and cargo on board when the doors are closed and, for an aeroplane, its operation and safety from the moment it is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine or engines used as primary propulsion unit are finally shut down or, for a helicopter, its operation and safety from the moment the engine or engines are started until the helicopter finally comes to rest at the end of the flight with the engine(s) shut down and the rotor blades stopped;

(b) (i) in an emergency during flight, taking all reasonable steps to ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances,

(ii) ensuring that the checklist system and checklists specified to in Articles 23 and 52 are complied with in detail by the flight crew;

(c) notifying the nearest appropriate authority and the Authority, without delay and by the quickest available means, of any accident involving the aircraft which results in the injury or death of any person or in substantial damage to the aircraft or to other property, or any incident which seriously or potentially hazards that aircraft in accordance with Article 11 of the Air Navigation (Notification and Investigation of Accidents) Regulations, 1997 (S.I. No. 205 of 1997);

(d) reporting at the termination of a flight all known or suspected defects to the operator of that aircraft in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003;

(e) reporting to the appropriate authority, without delay, any act of unlawful interference.

(3) The Authority may cause such investigations or inspections as it deems appropriate to be made in respect of an incident or other occurrence which caused or could have caused a hazardous effect on the operation of an aircraft and may, for the purposes of such investigation or inspection, detain an aircraft, remove and detain any aircraft equipment, take copies of or extracts from any documents or records (including the records in any flight recorder) have access to any place or premises and obtain from any person such information as may reasonably be required.

Authority of the pilot-in-command

49. (1) The pilot-in-command of an aircraft shall have all authority necessary to enable him or her to discharge the responsibilities specified in Article 48 of this Order and as required by the applicable Joint Aviation Requirements and a person, including an operator, shall not interfere with, impose upon or penalise the pilot-in-command in the exercise of that authority.

(2) A person in an aircraft registered in the State shall obey all lawful commands which the pilot-in-command of the aircraft may give for the purpose of securing the safety of the aircraft and of persons or property carried therein, or the safety, efficiency or regularity of air navigation.

Duties of a flight operations officer

50. (1) A flight operations officer and a person supervising flight operations, when employed by the operator of a commercial transport aircraft in conjunction with a method of flight supervision in accordance with Article 22 of this Order shall:

(a) assist the pilot(s)-in-command of an aircraft or aircraft in flight preparation and provide the relevant information required for this purpose;

(b) assist the pilot(s)-in-command of an aircraft or aircraft in preparing the operational flight plan, and in filing the flight plan with the appropriate air traffic services unit;

(c) furnish the pilot(s)-in-command while in flight, by appropriate means of communication, information which may be necessary for the safe conduct of the flight(s);

(d) in the event of an emergency, initiate such procedures as may be outlined in the Operations Manual and pertinent to his or her duties.

(2) In performing his or her duties, a flight operations officer or a person supervising flight operations shall not take any action which would conflict with the requirements of this Order or the provisions of the applicable Joint Aviation Requirements or procedures established by the air traffic services, the meteorological services or the communications services.

PART IV
AIRCRAFT OPERATING LIMITATIONS

Conditions of operation

51. (1) An aircraft shall be operated:

(a) in compliance with the terms of its certificate of airworthiness; and

(b) within the operating limitations specified in the aircraft flight manual or in other documents acceptable to the Authority as equivalent to the flight manual. Placards, lists, instrument markings or combinations thereof containing operating limitations prescribed by the Authority for visual presentation shall be displayed in the aircraft; and

(c) in the State, in compliance with the provisions of the Irish Aviation Authority (Noise Certification and Limitation) Orders, 1984 to 1999, and the applicable noise certification standards in Annex 16 (Vol 1) to the Convention or the applicable Joint Aviation Requirements, if different and, elsewhere, in compliance with Annex 16 to the Convention or with such requirements for noise certification as may be prescribed by the appropriate authority.

(2) (a) A commercial transport aircraft shall be operated in accordance with the appropriate operating requirements relating to mass and performance of the applicable Joint Aviation Requirements or as otherwise prescribed by the Authority or, subject to the agreement of the Authority, with all of the appropriate requirements for the time being in force, relating to mass and performance, of:

(i) where applicable, the Federal Aviation Administration, in the United States of America,

or

(ii) where applicable, the Civil Aviation Authority in the United Kingdom,

or

(iii) where applicable, the state which issued the original certificate of airworthiness for the type of aircraft concerned, provided that such requirements meet the applicable standards of Annex 6 to the Convention;

(b) A commercial transport aircraft, when conducting international flights, shall, in addition to the requirements of paragraph (2)(a) above, be operated in accordance with such appropriate operating requirements relating to mass and performance as may be prescribed by the applicable standards of Annex 6 to the Convention.

(c) a commercial transport aeroplane shall not be operated by a single pilot under Instrument Flight Rules (IFR) or at night unless that operation is approved by the Authority and unless in respect of that aeroplane:

(i) the flight manual does not require a flight crew of more than one pilot;

(ii) it is propeller driven;

(iii) the maximum approved passenger seating configuration is nine or less;

(iv) the maximum certificated take-off mass does not exceed 5,700 kg;

(v) it is equipped as described in sub-paragraph 5(1)(p) of the First Schedule to this Order; and

(vi) the pilot-in-command has satisfied the requirements of experience, training, checking and recency described in the applicable Joint Aviation Requirements."

(3) (a) A single-engine aircraft shall only be operated in conditions of weather and light and over such routes and diversions therefrom that permit a safe forced landing to be executed in the event of an engine failure or as otherwise prescribed by the Authority. The conditions of this paragraph shall also apply to helicopters operated in Performance Class 3 and in Performance Class 2 prior to the defined point after take-off and after the defined point before landing or as required by the applicable Joint Aviation Requirements;

(b) Only a helicopter operated in Performance Class 1 shall be permitted to operate from elevated heliports in congested areas.

(4) Account shall be taken of the loss, if any, of runway length due to the alignment of the aircraft prior to take-off in determining the length of runway available.

(5) A commercial transport flight shall not be commenced unless the performance information in the aircraft flight manual or the relevant approved aircraft operating manual indicates that the requirements of the applicable Joint Aviation Requirements will be complied with. Where such information is not available as such, a commercial transport operation shall comply with the requirements of paragraph 2 of this Article.

(6) Account shall be taken by an operator of charting accuracy in respect of obstacle data provided to permit compliance with take-off, initial climb, approach and landing flightpaths.

(7) Account shall be taken by an operator, where appropriate to the area of operation, of the effects of extreme environmental conditions, for example low air or surface temperatures, on the calibration and performance of aircraft instrumentation and systems.

PART V
AIRCRAFT INSTRUMENTS, EQUIPMENT AND SAFETY DEVICES

Carriage of instruments, equipment and safety devices

52. (1) The instruments and equipment required by this Article shall be installed or carried in an aircraft, as appropriate, in addition to the instruments and equipment necessary for the issuance of a certificate of airworthiness, according to the aircraft use and to the circumstances under which the flight is to be conducted.

(2) (a) The operator of a commercial transport aircraft shall include in the Operations Manual a minimum equipment list (MEL), accepted or approved by the Authority, which will enable the pilot-in-command to determine whether a flight may be commenced or continued from any intermediate stop should any instruments equipment or systems become in-operative;

(b) Where an aircraft to which this paragraph applies is registered in a state other than the State, the operator concerned shall ensure that the minimum equipment list submitted for approval to the Authority does not affect the aircraft's compliance with the airworthiness requirements applicable in the state of registry of that aircraft.

(3) The operator of a commercial transport aircraft shall provide operations staff and flight crew with an aircraft operating manual for each aircraft type operated containing the normal, abnormal and emergency procedures relating to the operation of the aircraft. The manual shall include details of the aircraft systems and of the checklists to be used. The design of the manual shall reflect human factors principles.

(4) An aircraft shall be equipped with instruments which will enable flight crew members to control the flight path of the aircraft, effect any required procedural manoeuvre, and observe the operating limitations of the aircraft in the expected operating conditions.

(5) (a) The instruments, equipment and safety devices to be carried and maintained in a condition fit for flight and available for immediate use and the devices to be used and the precautionary measures to be taken, for the purpose of securing the safety of the aircraft and of persons therein, shall include those specified in the First Schedule to this Order or prescribed as provided therein and shall also include any additional instruments, equipment and safety devices which the Authority may require to be carried in a particular case or on a particular flight;

(b) An instrument or item of equipment referred to in sub-paragraph (a) of this paragraph shall, unless included amongst those specified in subparagraph (c) of this paragraph, be of an approved type and shall be installed or stowed in the aircraft in a manner which shall be approved, which ensures satisfactory functioning and which ensures that it can be used effectively by the person by whom it is intended to be used, as appropriate to the aircraft concerned and to the circumstances under which the flight is to be conducted. In this sub-paragraph, "approved" means approved by the Authority or by the state of registry of the aircraft concerned if different;

(c) The following instruments and equipment, which may be of any type suitable for the purpose, shall be securely installed or stowed in a manner which will not prevent their most effective use when required and will ensure that they cannot be displaced during flight in such a way as to interfere with the safe operation of the aircraft:

(i) navigational and plotting instruments necessary for a particular flight as determined by the pilot-in-command,

(ii) maps, charts, timepieces and chart tables,

(iii) sea anchors,

(iv) torches,

(v) whistles, and

(vi) mooring devices, or anchoring devices;

(d) The fire extinguishers required by the First Schedule to this Order shall be of an approved size and shall not be of a type which would cause dangerous contamination of the air in crew compartments or passenger compartments;

(e) The first aid kit referred to in subparagraph (1) of paragraph 5 of the First Schedule to this Order shall be related in content to the total number of persons for whom seats are provided in the aircraft, shall include the items set out in clause (h) of the said subparagraph (1) and shall be carried in a sealed container in such a manner that the seals can be readily inspected by a person designated by the operator;

(f) The flight recorders referred to in paragraph 5 (1)(i) of the First Schedule to this Order shall be of approved types and shall be:

(i) so constructed and located as to afford maximum practicable protection in order that the recorded data may be preserved, recovered and transcribed. Flight recorders shall also meet the industry crashworthiness and fire protection requirements as prescribed in the appropriate standards,

(ii) maintained in operation during flight time,

(iii) de-activated, if practicable, after an accident or serious incident involving the aircraft in which they are installed and shall not be re-activated prior to retrieval for examination of the recorded data;

(g) (i) a flight data recorder shall be capable of retaining the information recorded during at least the last 25 hours of its operation, or such other period as may be prescribed,

(ii) a cockpit voice recorder shall be capable of retaining the information recorded during at least the last 30 minutes of its operation or, where prescribed, the last two hours of its operation,

(iii) an operator shall ensure to the extent possible, in the event that an aircraft becomes involved in an accident or a serious incident, the preservation of all related flight recorder records and, if necessary, the associated flight recorders and their retention in safe custody pending their disposition as determined by the Authority or the appropriate accident investigation authority,

(iv) operational checks and evaluations of recordings from the flight data and cockpit voice recorder systems shall be conducted as prescribed to ensure the continued serviceability of the recorders,

(v) an aircraft equipped to utilise data link communication and which is required to carry a cockpit voice recorder (CVR), shall, where so prescribed, record on a flight data recorder all data link communications to and from the aircraft. The minimum recording duration of such data link messages shall be equal to that of the CVR and shall be correlated to the recorded cockpit audio. Sufficient information to derive the content of the data link communication message and, whenever practical, the time the message was displayed to or generated by the crew shall also be recorded.

[Note: Data link communications include, but are not limited to, automatic dependent surveillance (*ADS*), controller-pilot data link communications (*CPDLC*), data link-flight information services (*D-FIS*) and aeronautical operational control (*AOC*) messages].

(6) (a) If an instrument, indicator or gauge required by the First Schedule to this Order to be provided and fitted in an aircraft is not, to the satisfaction of the Authority, conveniently visible to a crew member for the performance of his or her duties from that crew member's normal place of duty, a further such instrument, indicator or gauge, so placed as to be conveniently visible to that crew member, shall be provided and installed in the aircraft;

(b) Independently-operating systems shall be provided when duplicate instruments are required, the said independently-operating systems being such that no one fault, which might impair the operation of one such instrument, can impair the operation of both such instruments;

(c) Those instruments that are used by any one pilot shall be so arranged as to permit that pilot to see them readily from his or her station with the minimum practicable deviation from the position and line of vision which he or she normally assumes when looking forward along the flight path;

(d) A flight crew member, when exercising the privileges of a licence issued or validated under the Irish Aviation Authority (Personnel Licensing) Orders, 2000 to 2003, subject to the condition that he or she wears suitable correcting lenses, shall have a spare set of such lenses readily available to him or her when exercising those privileges;

(e) Where equipment additional to that required in pursuance of paragraph (1) of this Article is installed, it shall either be approved by the Authority as in sub-paragraph (5)(b) of this Article or it shall be demonstrated to the satisfaction of the Authority that the said additional equipment as installed is neither a source of danger nor prejudicial to the proper functioning of the essential services in the aircraft, and does not in any way reduce the airworthiness of the aircraft;

Markings of break-in-areas

(f) If areas of the aircraft fuselage suitable for break-in by rescue crews are marked externally, the break-in-areas shall be rectangular in shape and shall be marked by right-angled corner markings, each arm of which shall be 9 centimetres in length along its outer edge and 3 centimetres in width and the colour of the markings shall be red or yellow and where, in any case in which the colour of the adjacent background is such as to render red markings not readily visible, be outlined in white or some other contrasting colour in such a manner as to render them visible;

(g) If the corner markings are more than two metres apart intermediate markings consisting of rectangles nine centimetres long by three centimetres wide shall be inserted so that there is not more than two metres between adjacent markings.

List of emergency and survival equipment

(7) The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements in respect of emergency and survival equipment on board the aircraft and shall at all times have available for immediate communication to rescue co-ordination centres lists containing information regarding the emergency and survival equipment carried on board each of the operator's aircraft engaged on a flight which includes passage over the territory of any state other than the State.

(8) The information required pursuant to paragraph (7) of this Article shall include such of the following information as is appropriate in each case, that is to say, the number, colour and type of life-rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of the emergency portable radio equipment.

(9) In this Article "approved" means approved by the Authority.

Exits and Internal Doors

53. (1) This Article shall apply in relation to commercial transport aircraft only.

(2) The operator shall comply with the applicable Joint Aviation Requirements and shall demonstrate to the satisfaction of the Authority that for each flight the number of exits from the aircraft available for use in an emergency is sufficient for all persons on board on that flight to vacate the aircraft within such period of time as may be prescribed or as required under the certification basis for that aircraft or aircraft type.

(3) Whenever an aircraft is used for the carriage of passengers, all exits and internal doors shall be in working order, and shall, during take-off or landing or any emergency, be free from obstruction and not fastened in any way which would prevent, hinder or delay their use by passengers,

provided that:

(a) if such an exit is not required for use by passengers, it may, in accordance with arrangements approved by the Authority, be obstructed by cargo;

(b) a door between the flight crew compartment and any adjacent compartment accessible to passengers shall be fastened so as to prevent access to the flight crew compartment by passengers, unless the pilot-in-command determines otherwise in a particular case;

(c) nothing in this paragraph shall apply to any internal door which, if it is not in working order would not prevent, hinder, or delay the exit of passengers from the aircraft in an emergency.

(4) If one exit from an aircraft becomes inoperative when the aircraft is at a place where repair or replacement is not reasonably practicable, nothing in this Article shall prevent the aircraft from carrying passengers until it next lands at a place where the exit can be repaired or replaced: provided that, the number of passengers and the position of the seats occupied by them are in accordance with arrangements approved by the Authority, and that such arrangements include those for the fastening of the exit and the marking of it to indicate that it is inoperative.

PART VI
AIRCRAFT COMMUNICATION AND NAVIGATION EQUIPMENT

Communications and navigation equipment to be carried

54. (1) An aircraft shall not fly unless it is provided with communications and navigation equipment to such extent and in such manner as may be required by the law of the state in which the aircraft is registered.

(2) An aircraft registered in the State shall not fly unless it is provided with such communications and navigation equipment as may be prescribed. A commercial transport aircraft shall be equipped with communications and navigation equipment in accordance with the applicable Joint Aviation Requirements.

(3) An aircraft to be operated:

(a) in accordance with Instrument Flight Rules;

(b) as a controlled Visual Flight Rules flight;

(c) at night, when so prescribed;

(d) on a flight in the course of which it may be at a distance over water more than fifty nautical miles from land suitable for an emergency landing; or

(e) over undeveloped land areas,

shall be provided with radio communications equipment capable of:

(i) conducting two-way communication for aerodrome or heliport control purposes,

(ii) receiving meteorological information at any time during flight,

(iii) conducting two-way communication at any time during the flight with such aeronautical stations, and on such radio frequencies, as may be directed by the Authority,

(iv) communications on the aeronautical emergency frequency.

(4) An aircraft operating on a route on which navigation is not or cannot be accomplished under visual flight rules by visual reference to land marks at least every sixty nautical miles, or when operated in accordance with the Instrument Flight Rules, shall be provided with navigation equipment which will enable the aircraft to proceed in accordance with:

(a) the appropriate flight plan, which in the case of commercial transport aircraft shall be the operational flight plan referred to in Article 31;

(b) the requirements of the air traffic services;

(c) the required navigation performance (RNP Type) prescribed by the appropriate authority for the areas and airspace concerned.

(5) (a) An aircraft registered in the State or wherever registered and operated by an operator holding a valid air operator's certificate issued by the Authority shall, in addition to the requirements of paragraph (4) of this Article:

(i) be provided with navigation equipment which will enable it to be operated in accordance with the prescribed RNP Type(s) for flights in defined portions of airspace or on routes where an RNP Type has been prescribed by the appropriate authority and shall be authorised by the Authority for operation in such airspace,

(ii) be equipped with navigation equipment which continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track for flights in defined portions of airspace where, based on a Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed by the appropriate authority and shall be authorised by the Authority for MNPS operations in such airspace,

(iii) be provided with equipment which is capable of:

- indicating to the flight crew the flight level being flown,
- automatically maintaining a selected flight level,
- providing an alert to the flight crew when a deviation occurs above or below the selected flight level by more than 300 ft,
- automatically reporting the pressure altitude of the aircraft for flights in defined portions of airspace where based on a Regional Air Navigation Agreement a Reduced Vertical Separation Minimum (RVSM) of 1000 feet is applied between flight level 290 and flight level 410 inclusive and the aircraft is authorised by the Authority for operation in such airspace;"

(b) the equipment required by (i), (ii) and (iii) of sub-paragraph (a) shall have a vertical navigation performance capability which satisfies the requirements specified in Appendix 4 to Part I of Annex 6 to the Convention and shall be approved by and installed and maintained in a manner approved by the Authority and shall be subject to appropriate continued airworthiness procedures, practices and programmes in respect of maintenance and repair and the operating procedures for that equipment shall be acceptable to the Authority for operation in RVSM airspace and the equipment itself shall be operated in accordance with those accepted procedures while the aircraft is flying in the defined RVSM portions of airspace concerned.

(6) On flights in which it is intended to approach to land in instrument meteorological conditions (IMC), an aircraft shall be provided with radio equipment capable of receiving signals providing guidance to a point from which a visual landing can be effected. The said equipment shall be capable of providing such guidance at each aerodrome or heliport at which it is intended to land in instrument meteorological conditions and at any designated alternate aerodromes or heliports.

(7) An aircraft shall be provided with sufficient navigation equipment to ensure that in the event of failure of one item of equipment at any stage of the flight, the equipment remaining will enable the aircraft to proceed in accordance with paragraphs (4) and (5) of this Article.

(8) The equipment installation in the aircraft shall be such that the failure of any single unit required for either communication or navigation purposes, or both, will not result in the failure of another unit required for communication or navigation purposes.

(9) When compliance with paragraph (2) of this Article requires that more than one unit of communications equipment be provided, each such unit shall be independent from the other or others to the extent that a failure in any one unit will not result in the failure of any other.

(10) The requirements of this Article shall be deemed to be fulfilled:

(a) if the ability to conduct the communications specified therein is established during radio propagation conditions which are normal for the route concerned; and

(b) if flights are planned and conducted at such altitude as will enable the communications and navigation capabilities specified therein to be effective.

(11) A commercial transport aircraft shall be equipped with a flight crew interphone system, including headsets and microphones, not of a handheld type, for use by all members of the flight crew. Flight crew members on the flight deck of an aircraft shall be equipped with and shall communicate though boom or throat microphones below the transition level.

Approval of equipment

55. Aircraft radio and navigation equipment shall be of a type approved by the Authority in relation to the purpose for which it is to be used and shall be installed in a manner approved by the Authority. The operator of a commercial transport aircraft shall not employ electronic navigation data products that have been processed for application in the air or on the ground unless that operator employs procedures approved by the Authority for ensuring that the process applied and the products delivered have met acceptable standards of integrity, that the products are compatible with the intended function of the equipment that will use them and that the operator continues to monitor both process and products in service.

PART VII
AIRCRAFT CREW

Aircraft Crew Composition and Standards

56. (1) The operator of a commercial transport aircraft shall assign to each crew member on that aircraft the duties appropriate to his or her functions in both normal and emergency operations.

(2) The operator of a commercial transport aircraft shall not assign or continue to assign for duty, as an aircraft crew member on that aircraft, a person who fails to reach standards as specified in the applicable Joint Aviation Requirements and as stated by that operator and acceptable to the Authority in relation to competency in the performance of his or her normal duties and of the functions assigned to him or her in an emergency.

(3) (a) An aircraft shall not fly or attempt to fly unless its flight crew is of the number and description required by the law of the state in which the aircraft is registered;

(b) In the case of a commercial transport aircraft, the number and description of the flight crew shall be as required by the provisions of the applicable Joint Aviation Requirements and shall be specified in the Operations Manual and in the case of such an aircraft registered in the State, shall be approved by the Authority;

(c) The operator, or in the case of an aircraft which is not a commercial transport aircraft, the pilot-in-command, shall ensure that the licences of each flight crew member have been issued or rendered valid by the state in which the aircraft is registered, and are properly rated and of current validity and the operator or pilot-in-command, as the case may be, shall be satisfied that the flight crew members have maintained their competency.

(4) The flight crew carried in an aircraft shall not be less than the number specified in the certificate of airworthiness of the aircraft or the flight manual of the aircraft or other documents acceptable to the Authority as equivalent to the flight manual.

(5) Whenever the carriage of flight crew members in addition to the minimum number referred to in paragraph (4) of this Article is necessitated by considerations related to the type of aircraft used, the type of operation involved and the duration of the flight between points at which flight crews are changed, the flight crew carried in an aircraft shall include such additional flight crew members as are required and in compliance with the applicable Joint Aviation Requirements.

(6) An operator shall not operate a commercial transport aircraft without a second pilot if that aircraft has a passenger seating configuration, excluding any pilot seat, of 10 seats or more.

(7) Where an aircraft is engaged on a flight necessitating the carriage of radio transmitting equipment, the flight crew shall include at least one member who is entitled under the Irish Aviation Authority (Personnel Licensing) Orders, 2000 to 2003 to operate the type of equipment to be used.

(8) When a separate flight engineer's station is incorporated in the design of the aircraft, the flight crew shall include at least one flight engineer licensed under the Irish Aviation Authority (Personnel Licensing) Orders, 2000 to 2003, and especially assigned to that station, or a flight crew member otherwise approved by the Authority for that purpose.

(9) The operator of a commercial transport aircraft and the pilot-in-command of an aircraft which is not a public transport aircraft, shall, where that aircraft is equipped with an airborne collision avoidance system (ACAS), ensure that each flight crew member has been appropriately trained to competency in the use of the ACAS equipment and the avoidance of collisions.

Flight Crew Member training programme

57. The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements in regard to flight crew training and shall to the satisfaction of the Authority:

(1) establish and maintain a programme of ground and flight training to ensure that each flight crew member is adequately trained to perform his or her assigned duties and for this purpose shall provide or arrange for ground and flight training facilities and properly qualified instructors;

(2) ensure that the training programme consists of ground and flight training in the type or types of aircraft in which the flight crew member serves, and that the training programme includes proper flight crew co-ordination and multi-crew co-operation (MCC) training in all types of emergency or abnormal situations or procedures such as may be caused by power-units, airframe or systems malfunctions, fire, unlawful interference or other abnormal occurrences. The training programme shall also include training in knowledge and skills related to human performance and in crew resources management (CRM) and training in the transport of dangerous goods;

(3) ensure that the training of each flight crew member includes the imparting of knowledge of the functions for which that flight crew member is responsible and the relationship of these functions to the functions of other flight crew members, in particular those functions relating to abnormal or emergency procedures;

(4) arrange that the training programme is given on a recurrent basis, and includes an examination of the flight crew members to ensure that the required level of competency is maintained: provided that the recurrent flight training in a particular type of aircraft may be considered to be fulfilled by:

(a) the use of appropriate and approved synthetic training devices,

or

(b) the completion within the appropriate period of the proficiency check required by Article 58 (8) of this Order in the aircraft type concerned;

(5) establish, conduct and maintain a training programme which will enable flight crew members to act in the most appropriate manner to prevent or minimise the consequences of acts of unlawful interference.

Qualifications of Flight Crew

58. (1) This Article shall apply to commercial transport aircraft only. The operator of a commercial transport aircraft shall comply with the applicable Joint Aviation Requirements in respect of the qualifications of flight crew in addition to the requirements herein:

Recent Experience

(2) (a) A flight crew member, before he or she is assigned to flight duties in a capacity or in a type of aircraft, after a period during which he or she has not acted in that capacity or in that type of aircraft, shall be required to re-establish his or her competency in a manner acceptable to the Authority. The said period shall be in the case of any flight crew member a period greater than 90 days;

(b) The operator shall not assign a pilot to act as a pilot-in-command or a co-pilot of an aircraft unless, within the preceding 90 days, that pilot has made at least three take-offs and landings on the same type of aircraft or in a synthetic training device approved for the purpose by the Authority.

(c) The operator shall not assign a co-pilot to serve at the flight controls during take-off and landing unless, on the same type of aircraft within the preceding 90 days, that co-pilot has operated the flight controls, as pilot-in-command or as co-pilot during three take-offs and landings or has otherwise demonstrated competence to act as co-pilot on a synthetic training device approved for the purpose.

Route and Airport or Heliport Familiarisation

(3) The operator shall not permit a pilot to act as pilot-in-command of an aircraft on a route or portion of a route for which he or she has not been previously qualified unless that pilot has demonstrated to the operator in such manner as the Authority may require:

(a) that he or she has adequate knowledge of the route to be flown and of the aerodromes or heliports which are to be used, including knowledge of the following matters associated with that route:

(i) the terrain and the minimum safe altitudes,

(ii) the seasonal meteorological conditions,

(iii) the meteorological, communications and air traffic facilities, services and procedures,

(iv) the search and rescue procedures, and

(v) the navigational facilities;

(b) that he or she has adequate knowledge of:

(i) procedures applicable to flight paths over congested areas, and areas of high air traffic density,

(ii) obstructions en route and in the vicinity of aerodromes or heliports to be used,

(iii) the physical layout, lighting, approach aids, and arrival, departure, holding and instrument approach procedures and applicable aerodrome or heliport operating minima relevant to the aerodromes or heliports to be used.

(4) That portion of the demonstration required pursuant to paragraph (3) of this Article relating to arrival, departure, holding and instrument approach procedures may be accomplished in a synthetic training device which has been approved by the appropriate authority as adequate for the purpose.

(5) The pilot-in-command shall have made an actual approach into each aerodrome or heliport of landing on the route, either accompanied by a pilot who has qualified for the said aerodrome or heliport, or as a member of the flight crew, or as an observer on the flight deck, unless:

(a) the approach to the aerodrome or heliport is not over difficult terrain and the instrument approach procedures and aids available to the pilot are similar to those with which he or she is familiar and a margin approved by the Authority has been added to the normal aerodrome or heliport operating minima, or there is reasonable certainty that the approach and landing can be made in visual meteorological conditions (VMC); or

(b) the descent from the initial approach altitude can be made by day in visual meteorological conditions (VMC) i.e. by day/VFR only; or

(c) the operator has ensured that the pilot-in-command is qualified to land at the aerodrome or heliport concerned by means of familiarisation with an adequate pictorial presentation; or

(d) the aerodrome or heliport concerned is adjacent to another aerodrome or heliport at which the pilot-in-command is qualified to land.

(6) An operator shall keep in a form and manner approved of by the Authority, records of the qualifications under this Article of each pilot-in-command flying for that operator and of the manner in which the qualifications have been achieved.

(7) (a) An operator shall not continue to utilise a pilot as pilot-in-command on a route or within an area specified by the operator and approved by the Authority unless, within the preceding 12 months that pilot has made at least one trip as a pilot member of the flight crew or as a check pilot, or as an observer in the flight crew compartment:

(i) within that specified area; and

(ii) if appropriate, on any route where procedures associated with that route or with any aerodrome intended to be used for take-off or landing require the application of special skills or knowledge;

(b) In the event that more than a period of 12 months elapses during which a pilot-in-command has not made a flight on a route in close proximity to and over similar terrain within such a specified area, route or aerodrome and has not practiced such procedures in a training device which is adequate for the purpose, prior to again serving as pilot-in-command within that area or on that route, that pilot shall be requalified by complying with the qualification provisions of paragraphs (3) and (5) of this Article.

(8) (a) An operator shall ensure, in the case of each pilot flying for that operator, that the competency of the pilot in piloting technique and ability to execute emergency procedures is demonstrated by proficiency checks. Where operations may be conducted under instrument flight rules, the operator shall ensure that the competency of each pilot to comply with such rules is demonstrated either to an examiner authorised by the Authority or to an authorised officer of the Authority;

(b) Proficiency checks pursuant to subparagraph (a) of this paragraph shall be performed twice within any period of one year. Any two such checks which are similar and which occur within a period of four consecutive months shall not alone satisfy this requirement unless otherwise specified by the applicable Joint Aviation Requirements;

(c) Synthetic Training Devices, if of a type approved by the appropriate authority, may be used for such parts of the proficiency checks as have been expressly approved therefor by the Authority or as permitted by the applicable Joint Aviation Requirements.

(9) The operator of a commercial transport aeroplane shall ensure that for single pilot operations under Instrument Flight Rules (IFR) or at night the pilot-in-command is qualified as required by the applicable Joint Aviation Requirements."

Cabin crew members – required numbers and training

59. In the case of a commercial transport aircraft carrying passengers, the operator shall comply with the requirements of the applicable Joint Aviation Requirements in relation to cabin crew and shall, to the satisfaction of the Authority:

(1) ensure that the aircraft crew members include the minimum number of cabin crew required for each type of aircraft based on the minimum number of cabin crew used in demonstrating the emergency evacuation of the said type of aircraft and on the seating capacity of the aircraft, in order to carry out a safe and expeditious evacuation of the aircraft and the necessary functions to be performed in an emergency or in a situation requiring emergency evacuation;

(2) ensure that the number of cabin crew members carried shall be at least one for every fifty (or part of fifty) passengers carried in an aircraft;

(3) ensure that the cabin crew members shall not be members of the flight crew and shall be provided with seats in the passenger compartment;

(4) ensure that each cabin crew member is instructed that he or she shall be seated with safety harnesses fastened during take-off or landing and whenever the pilot-in-command so directs;

(5) Establish and maintain a training programme, approved by the Authority for cabin crew, which shall be completed annually by each cabin crew member who is assigned emergency functions in compliance with paragraph (1) of this Article and which will ensure by examination that each such cabin crew member:

(a) is competent to execute those safety duties and functions which may be assigned to him or her in the event of an emergency in accordance with paragraph (1) of this Article,

(b) is drilled and capable in the use of emergency and life-saving equipment required to be carried, including life jackets, life rafts, evacuation slides, emergency exits, portable fire extinguishers, oxygen equipment, first aid kits and pressure breathing equipment (PBE),

(c) when serving in an aircraft operating above 3,000 metres (10,000 ft), has a knowledge of the effect of lack of oxygen, and, in the case of pressurised aeroplanes, of the physiological phenomena accompanying a loss of pressurisation,

(d) is given adequate training in the treatment of the effects of decompression and in the recognition and treatment of the effect of lack of oxygen and is examined at least once every year on his or her knowledge of the information imparted during such training,

(e) is given instruction on survival at sea, in undeveloped territory and in extreme climatic conditions,

(f) is made aware of other crew members' assignments and functions in the event of an emergency insofar as it is necessary for the fulfilment of his or her own individual duties,

(g) is aware of the types of dangerous goods which may and may not be carried in a passenger cabin and has completed the operator's dangerous goods training programme as required by the Authority,

(h) is knowledgeable about human performance as related to passenger cabin safety duties, including flight crew and cabin crew co-ordination.

Flight and cabin crew members, emergency and survival training

60. (1) The operator of a commercial transport aircraft shall arrange that periodic training and examination of flight and cabin crew members is conducted on an annual basis in accomplishing the functions required by Article 56(1) in relation to emergency operations and is a part of the training programme required by Articles 57 and 59 which shall include:

(a) instruction in the use of all emergency and life-saving equipment required to be carried;

(b) drills in the emergency evacuation of the aircraft; and

(c) instruction on survival at sea, in undeveloped territory and in extreme climatic conditions.

(2) An operator shall establish, conduct and maintain a training programme acceptable to the Authority which:

(a) enables crew members to act in the most appropriate manner to prevent or minimise the safety consequences of acts of unlawful interference;

(b) acquaints appropriate employees including crew members with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aircraft so that they may contribute to the prevention of acts of sabotage or other forms of unlawful interference which may hazard the aircraft or its occupants.

PART VIII
AIRCRAFT MAINTENANCE

General

61. (1) (a) The provisions of this Part of the Order shall not apply to an aircraft to the extent that the applicable provisions of EU Regulations[2] have force of law in the State;

(b) A reference to an aircraft in this Part of the Order shall be deemed to include a reference to the components, power units, propellers, instruments, equipment, accessories and materials relating to that aircraft."

(2) The operator of a commercial transport aircraft and the owner of a private or an aerial work aircraft or, where it is leased, the lessee of that aircraft, to which this Order applies, shall ensure that, in accordance with procedures acceptable to the state of the operator and the state of registry:

(a) the aircraft in operation is maintained in an airworthy condition;

(b) the operational and emergency equipment necessary for an intended flight is serviceable and accessible;

(c) the certificate of airworthiness for the aircraft in operation remains valid;

(d) the maintenance of the aircraft is performed in accordance with a maintenance programme approved by the Authority or by the state of registry of that aircraft if not registered in the State;

(e) that an aircraft shall not be operated unless it is maintained and released to service under a system acceptable to the Authority or the state of registry if not registered in the State;

[2] These comprise on the date of signature of this Order Regulation (EC) 1592 of 2002 of the European Parliament and of the Council of 15th July 2002 and amendments thereto and Commission Regulations (EC) No. 1702/2003 and 2042/2003 made thereunder.

(f) a maintenance release or a certificate of release to service is issued by an organisation approved for aircraft maintenance by the Authority or a person otherwise qualified in that behalf, as appropriate in accordance with this Article or Article 62 of the Order;

(g) a maintenance release, or in the case of an aircraft which is not a commercial aircraft, a certificate of release to service, shall contain a certification which includes basic details of the maintenance carried out (including for a commercial aircraft detailed references of the approved data used), the date it was completed, the identity of the approved maintenance organisation (where applicable) and of person or persons signing the release.

(3) The operator of a commercial transport aircraft, who holds an air operator's certificate issued by the Authority, shall provide sufficient technical personnel and resources to comply with the relevant provisions of the applicable Joint Aviation Requirements and shall appoint a person within the operator's organisation, who is acceptable to the Authority, and in accordance with the applicable Joint Aviation Requirements, who has overall responsibility to ensure that all maintenance required on the operator's aircraft is carried out by a maintenance organisation approved by the Authority under JAR-145 in accordance with the operator's approved maintenance programme and maintenance control manual or, where applicable, a JAR-OPS Subpart M Maintenance Management Exposition, such as to maintain the aircraft in an airworthy condition when in use.

(4) The registered owner of a commercial transport aircraft registered in the State which is leased to an operator who does not hold an air operator's certificate issued by the Authority but who is authorised as an operator of that aircraft by another ICAO member state, in accordance with the relevant provisions of Annex 6 to the Convention, shall ensure that such arrangements as are agreed with the Authority in respect of the maintenance of such an aircraft are put in place by the operator concerned and shall ensure that it is maintained and released to service by a maintenance organisation approved by the appropriate authority in accordance with the provisions of Annex 6, in order to ensure that all maintenance work, overhauls, repairs, modifications and replacements to or in such aircraft which affect airworthiness are effected as required by, or prescribed under, the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003.

(5) (a) This paragraph shall apply in relation to a commercial transport aircraft only unless otherwise prescribed;

(b) The operator shall provide for the use and guidance of persons concerned in the maintenance of aircraft, a book which shall be known, and in this Order is referred to, as an operator's maintenance control manual (or a JAR-OPS Subpart M maintenance management exposition) The operator shall also provide a maintenance programme, approved by the state of registry of the aircraft concerned, which shall contain the particulars specified in paragraph 4 of the Second Schedule to this Order in respect of the aircraft used or as required by the applicable Joint Aviation Requirements and the design and application of which shall respect human factors principles;

(c) The operator shall ensure that the maintenance control manual and the maintenance programme are revised or amended, as may be necessary, by reason of any change in any of the matters specified in paragraph 4 of the Second Schedule to this Order, or to comply with the applicable Joint Aviation Requirements, or as may otherwise be necessary in order to ensure that the information in the maintenance control manual and the maintenance programme is the most recent available information or as may be required by the Authority, and that any revisions or amendments made in the maintenance control manual or in the maintenance programme under this paragraph are supplied to all persons to whom the maintenance control manual and the maintenance programme have been issued;

(d) A copy of the operator's maintenance control manual and the maintenance programme for the time being in use by the operator shall be provided to the Authority and to the state of registry of an aircraft, if different, together with all amendments or revisions to it and incorporating such mandatory material as required by the Authority.

(6) The operator of a commercial transport aircraft shall ensure that:

(a) all persons employed by that operator and concerned in the maintenance of such an aircraft are adequately trained in the maintenance methods to be employed, in particular when a new or unfamiliar aircraft is introduced into service;

(b) each person charged with the responsibilities of certifying as to the airworthiness of an aircraft by a maintenance release or a certificate of release to service is designated by that operator's approved maintenance organisation or otherwise designated by an organisation approved for aircraft maintenance by the Authority in accordance with the requirements of the Irish Aviation Authority (Personnel Licensing) Order, 2000 and the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 and in accordance with the applicable Joint Aviation Requirements;

(c) all modifications and repairs comply with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 and that procedures are established to ensure that substantiating data supporting compliance with the airworthiness requirements are recorded and retained;

(d) a maintenance release is issued in respect of all maintenance work in accordance with Article 18 of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003;

(e) maintenance and operational experience and in-service defects with respect to continuing airworthiness of an aircraft type are monitored, assessed with respect to airworthiness and reported in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 or as prescribed thereunder;

(f) continuing airworthiness information and recommendations available from the organisation responsible for the type design are obtained and assessed on a routine basis and resulting actions implemented as considered necessary and as required by the applicable Joint Aviation Requirements, according to a procedure acceptable to the Authority.

Responsibilities of Owners and Lessees

62. (1) In the case of an aircraft which is not a commercial transport aircraft, the owner, or in the case where the aircraft is leased, the lessee, shall be responsible for its maintenance in an airworthy condition while it is in use and shall be responsible for ensuring that:

(a) all maintenance, overhaul, alterations, modifications and repairs which affect airworthiness are performed in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 and that substantiating data supporting compliance with the airworthiness requirements are recorded and retained;

(b) maintenance personnel make appropriate entries in the aircraft maintenance records certifying that the aircraft is airworthy;

(c) a certificate of release to service is signed and issued by a person qualified to do so in accordance with the Irish Aviation Authority (Personnel Licensing) Order 2000 (S.I. No. 333 of 2000) to certify that the maintenance work has been completed satisfactorily in accordance with the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003;

(d) a person charged with the responsibility of certifying as to the airworthiness of an aircraft by a certificate of release to service is qualified in accordance with the provisions of the Irish Aviation Authority (Personnel Licensing) Orders 2000 to 2003 or directions issued thereunder or is, alternatively, be designated by an organisation approved for the maintenance of that aircraft type by the Authority;

(e) in the case of an aeroplane with a maximum take-off mass of more than 5,700 kg, or a helicopter of more than 3,180 kg, maintenance and operational experience and in-service defects with respect to continuing airworthiness of an aircraft type are reported in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 or as prescribed thereunder.

Keeping and preservation of logbooks

63. (1) In the case of a commercial transport aircraft, the operator, and in the case of an aircraft which is not a commercial transport aircraft, the owner, shall keep and preserve logbooks or equivalent records in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 to 2003 and the applicable Joint Aviation Requirements.

(2) The operator of a commercial transport aircraft and in the case of an aircraft which is not a commercial transport aircraft, the owner, shall ensure that the following records are held in respect of each aircraft in operation for the periods specified or as generally required by the applicable Joint Aviation Requirements or as otherwise required by paragraph (4) of this Article:

(a) the total time in service (hours, cycles, calendar time, as appropriate) for each aircraft and all life limited components;

(b) the current status of compliance with all mandatory continuing airworthiness information;

(c) appropriate details of modifications and repairs to the aircraft and its major components;

(d) the time in service (hours, calendar time, cycles, as appropriate) of the aircraft or its components subject to a mandatory overhaul life;

(e) the current aircraft status of compliance with the maintenance programme;

(f) the detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(3) The owner of an aircraft, other than a commercial transport aircraft or, in the case that an aircraft has been leased, the lessee of that aircraft, shall keep a record of the following with respect to that aircraft:

(a) the current empty mass and the location of the centre of gravity when empty; the addition or removal of equipment, the kind and extent of maintenance, alteration or repair performed and the time in service and date when the work was performed and a chronological list of compliance with airworthiness directives and the methods of such compliance;

(b) in respect of the major components:

(i) the total time in service,
(ii) the date of the last overhaul,
(iii) the time in service since the last overhaul,
(iv) the date of the last inspection;

(c) in respect of those instruments and equipment, the serviceability and operating life of which are determined by their time in service, such records of the time in service as are necessary to determine their serviceability or to compute their operating life and the date of the last inspection in each case.

(4) The records referred to in paragraphs (2)(a) to 2(e), inclusive and (3) above shall be held by the operator, owner or lessee for a period of 90 days after the end of the operating life of the unit to which they refer and those at paragraph 2(f) for a period of one year after the signing of the maintenance release concerned.

FIRST SCHEDULE

Article 52

Instruments, Equipment and Safety Devices for Aircraft

1. Paragraphs 2, 3 and 4 of this Schedule shall not apply to microlight aircraft (MTMA 450 kg), gliders, balloons or unpowered autogyros unless otherwise prescribed by the Authority in a particular case or specified herein.

2. An aircraft on any flight – shall be provided with:

   (1) Flight and navigation instruments:

      (a) a magnetic compass or its equivalent,
      (b) an accurate timepiece indicating time in hours, minutes and seconds,
      (c) a sensitive pressure altimeter,
      (d) an airspeed indicator,
      (e) other instruments or equipment as prescribed.

   (2) Power units instruments and equipment - reciprocating engines - for each engine -

      (a) fuel content indicator(s);

      (b) oil content indicator(s); there must be a stick gauge or equivalent means to indicate the quantity of oil in each tank. If an oil transfer or reserve oil supply system is installed, there must be a means to indicate to the flight crew in flight the quantity of oil in each tank;

      (c) oil pressure indicator;

      (d) oil temperature indicator, unless it can be proved that the operational limitations of the engine do not make the indicator essential;

      (e) tachometer (crankshaft rotational speed indicator);

      (f) manifold pressure indicator, where this indicator is necessary for the proper control of the engine;

      (g) ignition switches;

      (h) coolant outlet temperature indicator for liquid cooled engines;

      (i) for aircraft equipped with three or more engines, an instrument or device for indicating the loss of power where such loss of power is not readily determinable by the pilot from the natural response of the aircraft;

      (j) other instruments or equipment as prescribed.

(3) Power unit instruments and equipment - turbine engines - for each engine:

(a) an exhaust gas temperature indicator;

(b) fuel quantity indicators;

(c) oil pressure indicators, if an oil pressure system is used;

(d) oil quantity indicator; there must be a stick gauge or equivalent means to indicate the quantity of oil in each tank. If an oil transfer or reserve oil supply system is installed, there must be a means to indicate to the flight crew, in flight, the quantity of oil in each tank;

(e) oil temperature indicator;

(f) tachometer(s) to indicate revolutions per minute of compressor, turbine and propeller for each engine, as applicable;

(g) an instrument or device for indicating the loss of power where such loss of power is not readily determinable by the pilot from the natural response of the aircraft;

(h) other instruments or equipment as prescribed.

(4) Miscellaneous instruments, equipment or safety devices:

(a) a portable fire extinguisher of a type which, when discharged, shall not cause dangerous contamination within the aircraft and readily accessible to the pilot in the pilot's compartment and in each passenger compartment not readily accessible to the pilot;

(b) a seat for every occupant over 3 years of age, other than any occupant carried in a berth or on a stretcher, and a safety belt or safety harness for every seat, berth and stretcher;

(c) when a signal pistol is carried, a mounting that will enable the pistol to be loaded, fired and unloaded whilst in its mounting;

(d) an accessible first aid kit;

(e) such other instruments, equipment or safety devices as are prescribed.

(5) Current maps and charts to cover the whole of the route which it is proposed to fly, together with current maps and charts of any route to which the pilot-in-command of the aircraft may reasonably expect to be diverted.

(6) The ground/air signal codes for search and rescue purposes.

(7) Information to which the pilot-in-command of the aircraft may need to refer while in flight in order to comply with the Irish Aviation Authority (Rules of the Air) Order, 2004, and with the air traffic control procedures for the time being in force.

(8) Spare electrical fuses for all electrical circuits essential to safety contained in the aircraft the fuses of which can be replaced in flight. The number of fuses to be carried shall be 25% of the number required for each rating or three of each rating whichever number is the greater.

(9) In aircraft designed to manoeuvre on the water, equipment for making from the surface of the water efficient sound signals at intervals of not more than a minute.

(10) A list of visual signals and procedures for use by intercepting and intercepted aircraft as specified in Annex 2 to the Chicago Convention.

(11) Such instruments as the Authority may prescribe for aircraft in areas where search and rescue would be difficult.

(12) The aircraft flight manual or such other documentation and information as required to implement the requirements of Article 51 in respect of operating limitations.

(13) A flight recorder or recorders in such aircraft and recording such information as prescribed by the Authority or as required by the applicable Joint Aviation Requirements; documentation pertaining to such a recorder or recorders shall also be provided and maintained by the operator concerning parameter allocation, conversion equations, periodic calibration and other serviceability inspection or maintenance information, sufficient to ensure that accident investigation agencies will have the necessary information to read out the recorder data in engineering units.

(14) A ground proximity warning system (GPWS), or, where prescribed, an enhanced ground proximity warning system (EGPWS), for all aeroplanes of maximum total authorised mass greater than 5,700 kilograms or authorised to carry more than 9 passengers and for such other aircraft as may be prescribed, which shall provide automatically a timely and distinctive warning to the flight crew when the aircraft is in potentially hazardous proximity to the earth's surface, and shall as a minimum provide warnings of excessive descent rate, excessive terrain closure rate, excessive altitude loss after go-around or take-off, unsafe terrain clearance while not in the landing configuration, i.e. while the landing gear is not locked down or flaps not in landing position and excessive descent below an instrument glide path;

(15) A pressure-altitude reporting transponder providing such additional data parameters as are prescribed or otherwise required for flight in designated airspace.

3. In addition to the requirements of paragraph 2:

(1) In all aircraft for flight by night:

(a) equipment for displaying the appropriate lights required to be displayed by Part VI of the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004;

(b) adequate illumination for all instruments and equipment that are essential for the safe operation of the aircraft;

(c) the instruments and equipment specified in subparagraph (3) of this paragraph;

(d) an accurate time-piece indicating the time in hours, minutes and seconds;

(e) a landing light;

(f) lights in all passenger compartments;

(g) an electric torch for each crew member station.

(2) (a) A helicopter shall be equipped with a safety harness for each flight crew member's seat, comprising shoulder strap(s) and a seat belt, which may be used independently;

(b) In aircraft used for flight instruction, a safety harness or shoulder strap(s) in conjunction with the seat belt for every pilot's seat and for any seat situated alongside a pilot's seat or a seat otherwise provided for a person under instruction;

(c) In aircraft used for aerobatic flight manoeuvres - a safety harness for every seat in use by a person on board.

(3) For an aircraft when operated in accordance with instrument flight rules, or when the aircraft cannot be maintained in a desired attitude without reference to one or more flight instruments:

(a) a gyroscopic rate of turn indicator combined with an integral slip-skid indicator except that only a slip-skid indicator is required when a third attitude instrument system usable through flight attitudes of 360° of pitch and roll is installed in accordance with paragraph 5 (1)(c) of this Schedule;

(b) two attitude indicators (artificial horizon), one of which may be replaced by (a) above in the case of an aeroplane (only);

(c) a gyroscopic heading indicator;

(d) means of indicating whether the power supply to the gyroscopic instruments is working satisfactorily;

(e) two sensitive pressure altimeters, with counter drum-pointer or equivalent presentation and not with a three pointer or drum-pointer presentation);

(f) an accurate timepiece indicating the time in hours, minutes and seconds;

(g) a rate of climb and descent indicator;

(h) appropriate approach charts for each aerodrome specified in the flight plan;

(i) a means of indicating in the flight crew compartment the outside air temperature;

(j) an airspeed indicating system with means of preventing malfunctioning due to either condensation or icing;

(k) in an aeroplane, the maximum total authorised mass of which exceeds 5,700 kgs, two airspeed indicating systems each equipped with a means of preventing malfunctioning due to either condensation or icing;

(l) for a rotorcraft, a stabilisation system, unless it has been demonstrated satisfactorily to the Authority that the aircraft, by virtue of its design, has adequate stability without such a system;

(m) for a rotorcraft, a slip indicator;

(n) a magnetic compass.

(4) An aircraft on a VFR flight which is operated as a controlled flight (including a special VFR flight) – shall be equipped in accordance with the requirements of paragraph 3 (3) of this Schedule or with at least the following instruments:

(a) a turn and slip indicator, or, a gyroscopic bank and pitch indicator with a gyroscopic direction indicator, and a means of indicating whether the power supply to the gyroscopic instruments is working satisfactorily;

(b) a sensitive altimeter adjustable for changes in barometric pressure;

(c) an accurate time-piece indicating the time in hours, minutes and seconds;

(d) a pressure-altitude reporting transponder as prescribed or otherwise required for flight in designated airspaces."

(5) For flights which involve manoeuvres on the water by an aircraft:

(a) one life jacket, or equivalent individual flotation device for each person on board, stowed in a position easily accessible from the person's seat or berth. Each life jacket and equivalent flotation device shall be equipped with a whistle and a water proof torch or other equally suitable means of electric illumination for the purpose of facilitating the location of persons;

(b) in the case of a commercial transport aircraft, leaflets for distribution to each passenger stating the precise location and method of use of the life jackets;

(c) equipment of a marine type for making from the surface of the water the sound signals and pyrotechnical signals of distress specified in the Collision Regulations (Ships and Water Craft on the Water) Orders, 1984 to 1993;

(d) equipment for mooring or for anchoring appropriate to the maximum total mass authorised of the aircraft.

Note - a life belt is not considered an equivalent individual flotation device for the purpose of this Order.

(6) For flights which involve manoeuvres on the water by aircraft the maximum total authorised mass of which exceeds 2,370 kgs:

(a) the equipment specified in subparagraph (5) of this paragraph;

(b) one sea anchor;

(c) such apparatus as is required to facilitate the manoeuvring of the aircraft on the water under its engine power and as is appropriate to its mass, size and handling characteristics and, where such apparatus is not controlled by the pilot, a communication system enabling him or her to instruct the operator thereof.

(7) A helicopter intended to be flown over water, unless designed for landing on water, shall be fitted with a permanent or rapidly deployable means of flotation so as to ensure a safe ditching of the helicopter when:

(a) flying over water at a distance from land corresponding to more than 10 minutes at normal cruising speed in the case of helicopters operating in Performance Classes 1 or 2; or

(b) flying over water beyond autorotational or safe forced landing distance from land in the case of a helicopter operating in Performance Class 3.

4. A commercial transport aircraft shall be equipped in compliance with the requirements of JAR-OPS Subpart K at current amendment status and any other applicable Joint Aviation Requirements or as otherwise prescribed by the Authority.

5. (1) For a commercial transport aircraft there shall be provided:

(a) a safety harness with a single point release for every flight crew member and for every forward or rearward facing seat used by a crew member and the harness for flight crew members shall contain a device to restrain the occupant in the event of rapid deceleration;

(b) in the case of a helicopter - three attitude indicators (artificial horizons), one of which may be replaced by a gyroscopic turn indicator;

(c) in the case of an aeroplane of maximum total authorised mass exceeding 5,700 kgs or a helicopter operated in Performance Classes 1 or 2, a standby attitude indicator which operates continuously and is provided with an independent power source, which shall operate automatically on failure of the main electrical power supply, provide illumination to the standby attitude indicator and continue in operation for at least 30 minutes. A clear indication shall be given on the instrument panel that the standby attitude indicator is being operated by emergency power;

(d) means of indicating to the passengers when safety belts or safety harness should be fastened except where the pilot and passenger compartments are not separately enclosed;

(e) at least one portable fire extinguisher readily available to the pilot and at least one portable fire extinguisher for each enclosed passenger compartment that is separate from the pilot's compartment, provided that the total number of fire extinguishers shall be in relation to the total compartment capacity, as directed by the Authority, and except that any fire extinguishers which are carried in compliance with the issue of a certificate of airworthiness shall count against those required by this subparagraph;

(f) means of ensuring that information and instructions are conveyed to passengers with regard to the location and method of opening of the emergency exits;

(g) fire warning indicators;

(h) (i) for all flights, an accessible and adequate first-aid kit, including materials for treating minor injuries including burns, artificial plastic airways, splints which may be inflatable, scissors, analgesics, ammonia inhaler, handbook on first-aid,

(ii) for flights over the ocean or over areas where search and rescue operations would be difficult, one or more emergency medical kits containing in addition to the items listed in clause (i) of this subparagraph, insect repellent, emollient eye drops, sunburn cream, salt tablets, water miscible antiseptic skin cleanser, materials for the treatment of extensive burns, haemostatic forceps, haemostatic bandage or tourniquet, narcotic in injection form;

(i) A flight recorder or recorders in such aircraft and recording such information as may be prescribed by the Authority or as required by the applicable Joint Aviation Requirements;

(j) means of protecting the flight crew compartment from unauthorised access and the flight crew from unlawful interference; where an aeroplane is equipped as required by Annex 6 to the Convention, or by JAA requirements, with a flight crew compartment door that is designed to resist small arms fire, grenade shrapnel and forcible intrusion by unauthorised persons, such a door and its installation shall be of an approved type and shall be capable of being locked or unlocked from either pilot's station in the flight crew compartment only and means shall be provided by which the cabin crew can discreetly communicate with the flight crew where events in the cabin may render that necessary or desirable; where means is provided in an aeroplane as required by Annex 6 to the Convention, or by JAA requirements, to monitor from the flight deck the door area outside the flight crew compartment, such a monitoring system shall be of an approved type;

(k) such emergency equipment as may be prescribed, which may include axes, megaphones, means of emergency evacuation, interior marking and lighting of emergency exits, emergency exit operating handles, emergency exit access, exterior exit and escape route markings and lighting, floor level exits and additional exits;

(l) an electric torch for each crew member station;

(m) a forward or rearward facing seat, within 15 degrees of the longitudinal axis of the aircraft, fitted with a safety harness for the use of each cabin crew member required to satisfy the provisions of Article 59 of this Order and located near a floor level or other emergency exit or as required by the Authority or as otherwise required by the applicable Joint Aviation Requirements;

(n) an airborne collision avoidance system (ACAS) and pressure altitude reporting transponder as prescribed by the Authority or as required by the applicable Joint Aviation Requirements;

(o) in the case of a turbine engine aeroplane of maximum total authorised mass greater than 5,700 kilograms or authorised to carry more than 9 passengers, a wind-shear warning system or as otherwise prescribed by the Authority;

(p) in the case of an aeroplane operated by a single pilot under the Instrument Flight Rules or at night, a serviceable autopilot with at least altitude and heading select modes, a headset with a boom microphone or equivalent and a means of displaying charts that enables them to be readable in all ambient light conditions.

(2) For flights of a commercial transport aeroplane or any single engine aeroplane over water beyond gliding distance from coast or shore, and for flights of a commercial transport aeroplane or any helicopter operating in Performance Classes 2 or 3, when taking off or landing over a substantial body of water, such that in the event of an emergency arising there would be a likelihood of ditching – there shall be provided:

(a) the equipment and leaflets specified in subparagraph (5)(a) and 5(b) of paragraph 3 of this Schedule;

(b) an electric torch and if so prescribed such equipment for making the pyrotechnical signals specified in Part V of the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004.

(3) For flights over water in the course of which an aircraft may at any time be at a distance greater than the following away from an aerodrome or land suitable for a safe forced landing:

(a) a distance of 50 nautical miles (93 km) for aeroplanes and beyond autorotational or safe forced landing distance for helicopters operating in Performance Class 3:

- there shall be provided the equipment and leaflets specified in sub-paragraph (5)(a) and (5)(b), as applicable, of paragraph 3 of this Schedule;

(b) a distance of 100 nautical miles for any single engine aeroplane and 200 nautical miles for any multi-engine aeroplane capable of continuing a flight with one engine failed or, in the case of a commercial transport aeroplane capable of safely continuing a flight with one or more engines failed, a distance corresponding to 120 minutes at cruising speed or 400 nautical miles, whichever is the lesser, or, in the case of any other commercial transport aeroplane, 30 minutes at cruising speed or 100 nautical miles, whichever is the lesser, or more than 10 minutes flying time at normal cruise speed in the case of helicopters operating in Performance Classes 1 or 2 or more than 3 nautical miles when operating in Performance Class 3 - there shall be provided:

(i) the equipment and leaflets as required in subparagraphs (5)(a) and (5)(b), as applicable, of paragraph 3 of this Schedule,

(ii) suitably equipped life-saving rafts in sufficient numbers to accommodate all occupants of the aircraft stowed so as to permit their ready use in an emergency and provided with such life-saving equipment, including means for sustaining life, as is appropriate for the flight to be undertaken,

(iii) equipment for making the pyrotechnical signals specified in Part V of the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004,

(iv) permanently or rapidly deployable means of flotation for helicopters so as to allow safe ditching if necessary,

(v) each life-saving raft shall be equipped with:

means for maintaining buoyancy,

sea anchor,

life lines and means of attaching one life raft to another,

paddles or other means of propulsion,

weather protection equipment,

waterproof torch,

means of making sea water drinkable,

marine type equipment for making the pyrotechnical distress signals described in Rule 42 in the Schedule to the Irish Aviation Authority (Rules of the Air) Order, 2004,

first-aid equipment,

such supplies of food and water as would be reasonably required to meet an emergency.

Note (1) Routine maintenance and inspection of life-saving rafts and their equipment shall be carried out to ensure that they are maintained in a serviceable condition.

Note (2) The location, method of stowage and method of launching of life-saving rafts shall be such as to ensure the most expeditious and efficient use of them in the event of a forced landing of the aircraft on water. At least half the number of liferafts provided on a rotorcraft in accordance with the provisions of this sub-paragraph shall be deployable by remote control. A liferaft provided on a rotorcraft which is not deployable by remote control and which has a mass of more than 40kg shall be equipped with a means of mechanically assisted deployment.

Note (3) Equipment specified in item (v) of subparagraph (3) shall be contained in a pack and one such pack shall be stowed with each life-saving raft so that it is immediately available when the life-saving raft is launched.

(vi) portable radio equipment (emergency locator transmitters) for use as survival beacons, in type, numbers and locations as prescribed or accepted by the Authority.

(4) For flights by aircraft over undeveloped land areas where search and rescue could be especially difficult, there shall be provided portable radio equipment (emergency locator transmitters) for use as survival beacons to be carried in type, numbers and locations as prescribed or accepted by the Authority and such additional signalling devices and life saving or life sustaining equipment as may be appropriate to the area overflown.

(5) For flights at night by commercial transport aircraft – there shall be provided:

(a) two landing lamps or, if accepted by the Authority in the case of an aeroplane, a single landing lamp with two separately energised filaments and, in the case of a helicopter, one of these lights shall be trainable in the vertical plane;

(b) cabin lights in all passenger compartments;

(c) in the case of such aircraft as may be prescribed, or as required by the applicable Joint Aviation Requirements, an emergency lighting system independent of the main lighting system to provide illumination in the passenger compartment sufficient to facilitate the evacuation of the aircraft, notwithstanding the failure of the main lighting system;

(d) the instruments and equipment specified in subparagraph (3) of paragraph 3 of this Schedule;

(e) equipment for displaying the lights required by Rule 12 of the Irish Aviation Authority (Rules of the Air) Order, 2004;

(f) illumination for all instruments and equipment essential for the safe operation of the aircraft and used by the flight crew;

(g) an electric torch for each crew member station;

(6) An aircraft intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 Hpa in personnel compartments shall be equipped with oxygen storage and dispensing equipment capable of storing and dispensing the oxygen supplies as follows:

(a) a supply of oxygen for continuous use by all crew members and by 10% of the passengers for the whole time in excess of 30 minutes during which the aircraft is required to fly at an altitude above 10,000 feet (a pressure of less than 700 Hpa) but not above 13,000 feet (a pressure of less than 620 Hpa;

(b) a supply of oxygen for continuous use by all crew members and passengers for the whole time during which the aircraft is required to fly above an altitude of 13,000 feet (a pressure of less than 620 Hpa).

(7) An aircraft intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 Hpa but which is provided with means of maintaining pressures above 700 Hpa in all personnel compartments shall be provided with oxygen storage and dispensing equipment capable of storing and dispensing the oxygen supplies as follows:

- for all crew members and passengers:

(i) in the event of a loss of pressurisation, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 Hpa,

(ii) in addition, when the aircraft is operated at a flight altitude at which the atmospheric pressure is less than 376 Hpa, or which, if operated at flight altitudes at which the pressure is more than 376 Hpa and it cannot descend safely within four minutes to an altitude at which the atmospheric pressure is equal to 620 Hpa, there shall be no less than a 10 minute supply for the occupants of the passenger compartment.

Note (1) For the purposes of this paragraph and of Article 39 of this Order, the expression "loss of pressurisation" means inability through any cause to maintain an atmospheric pressure of at least 700 hectopascals in any occupied compartment.

Note (2) Approximate altitudes in the Standard Atmosphere corresponding to the values of absolute pressure used in this Order are as follows:

Absolute Pressure	Feet	Metres
700 hectopascals	10,000	3,000
620 hectopascals	13,000	3,900
376 hectopascals	25,000	7,600

(8) For all flights for which the carriage of stored oxygen is required by this Order, there shall be provided:

(a) suitable means of storing, supplying and dispensing oxygen;

(b) suitable means of indicating to the passengers in each compartment the appropriate times at which oxygen should be used and the method of use.

(9) (a) For flights on which a pressurised aircraft is intended to be operated at an altitude at which the atmospheric pressure is less than 376 hectopascals - a device to provide warning of any dangerous loss of pressurisation shall be provided;

(b) For flights on which a pressurised aircraft is intended to be operated at an altitude at which the atmospheric pressure is less than 376 Hpa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 Hpa, the aircraft cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 Hpa, it shall be provided with automatically deployable oxygen equipment to satisfy the requirements of paragraph (7) of this Schedule. The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew member seats by at least 10 per cent.

(10) For flights when the weather reports or forecasts available at the aerodrome or heliport at the time of departure indicate that conditions favouring ice formation are likely to be met, means or equipment shall be provided to prevent any impairment through ice formation of the functioning of the controls, means of propulsion, lifting surfaces, windows or equipment of the aircraft which would endanger the safety of the aircraft.

(11) For a pressurised commercial transport aircraft – there shall be provided:

operative weather radar, whenever such aircraft are being operated in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable by air-borne weather radar equipment, may be expected to exist along the route to be flown, either at night or in instrument meteorological conditions.

(12) For an aircraft intended to be operated above an altitude of 49,000 feet - there shall be provided:

equipment to measure and indicate continuously the dose rate of total cosmic radiation being received and the cumulative dose on each flight. The display unit of the equipment shall be readily visible to a flight or cabin crew member from his or her station.

(13) An aircraft with speed limitations expressed in terms of mach number shall be equipped with a mach number indicator.

6. Gliders shall be provided with:

(1) for all flights:

(a) such instruments, equipment and devices as the Authority may require to be carried in the particular glider;

(b) safety harness for every seat in use.

(2) for flights by night:

(a) equipment for displaying the lights required to be displayed by Rule 12 of the Irish Aviation Authority (Rules of the Air) Order, 2004, in relation to the particular aircraft;

(b) adequate electrical illumination, supplied from the main source of supply in the glider for the instruments and equipment (including maps) required to be carried, the illumination of which is necessary to enable use to be made of them during the flight.

(3) For a commercial transport or an aerial work glider - such additional instruments, equipment and devices as the Authority may prescribe in each case.

7. Free and Captive Balloons shall be provided with:

for all flights - such instruments, equipment and devices as the Authority may require to be carried in the particular type of aircraft.

SECOND SCHEDULE

Articles 15, 23, 52, 61

Manuals, Logs and Records

1. Journey Logbook

The journey logbook or other equivalent record required by Article 15 shall contain the following items and corresponding Roman numerals:

I. aircraft nationality and registration;
II. date;
III. names of crew members;
IV. duty assignments of crew members;
V. place of departure;
VI. place of arrival;
VII. time of departure;
VIII. time of arrival;
IX. hours of flight;
X. nature of flight; (private, aerial work, non-scheduled commercial transport, scheduled commercial transport);
XI. incidents and observations if any;
XII. signature of person in charge.

2. Organisation and Contents of an Operations Manual

An operations manual, organised as shown herein, which may be issued in separate parts corresponding to specific aspects of operations shall contain at least the following:

(1) Organisation:

- Administration And Policy Manual;
- Aircraft Operating Manual;
- Minimum Equipment List (MEL) And Configuration Deviation List (CDL);
- Training Manual;
- Airport And Runway Analysis Manual;
- Areas, Routes and Aerodromes
- Cabin Safety And Emergency Procedures Manual;
- Dangerous Goods Manual;
- Accident Prevention And Flight Safety Manual;
- Security Manual.

(2) Contents of Manual System:

2.1 Administration And Policy Manual

2.1.1 Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations;

2.1.2 A scheme limiting the flight time flight duty periods and total duty time and providing for adequate rest periods for flight crew members and cabin crew members as required by the Order;

2.1.3 A list of the navigational equipment to be carried including any requirements relating to operations in RNP airspace;

2.1.4 Where relevant to the operations, the long range navigation procedures, engine failure procedures for ETOPS and the nomination and utilisation of diversion aerodromes;

2.1.5 The circumstances in which a radio listening watch is to be maintained;

2.1.6 The method for determining minimum flight altitudes;

2.1.7 The methods for determining aerodrome or heliport operating minima;

2.1.8 Safety precautions during refuelling with passengers on board;

2.1.9 Procedures, as prescribed in Annex 12, for pilots-in-command observing an accident;

2.1.10 The flight crew for each type of operation including the designation of the succession of command;

2.1.11 Specific instructions for the computation of the quantities of fuel and oil to be carried, having regard to all circumstances of the operation including the possibility of the failure of one or more powerplants while en route;

2.1.12 The conditions under which oxygen shall be used and the amount of oxygen determined in accordance with the Order;

2.1.13 Instructions for mass and balance control;

2.1.14 Instructions for the conduct and control of ground de-icing and anti-icing operations;

2.1.15 The specifications for the operational flight plan;

2.1.16 Standard operating procedures (SOP) for each phase of flight;

2.1.17 Instructions on the use of normal checklists and the timing of their use;

2.1.18 Departure contingency procedures;

2.1.19 Instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude callout;

2.1.20 Instructions on the use of autopilots and autothrottles in IMC;

2.1.21 Instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved;

2.1.22 Departure and approach briefings;

2.1.23 Procedures for familiarisation with areas, routes and aerodromes;

2.1.24 Stabilised approach procedure;

2.1.25 Limitation on high rates of descent near the surface;

2.1.26 Conditions required to commence or to continue an instrument approach;

2.1.27 Instructions for the conduct of precision and non-precision instrument approach procedures;

2.1.28 Allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations;

2.1.29 Instructions and training requirements for the avoidance of controlled flight into terrain and policy for the use of the ground proximity warning system (GPWS and EGPWS);

2.1.30 Information and instructions relating to the interception of civil aircraft including:

(a) prescribed procedures for pilots-in-command of intercepted aircraft, and

(b) visual signals for use as prescribed by intercepting and intercepted aircraft;

2.1.31 For aeroplanes intended to be operated above 15,000 metres (49,000 ft):

(a) information which will enable the pilot-in-command to determine the best course of action to take in the event of exposure to solar cosmic radiation, and

(b) procedures in the event that a decision to descend is taken, covering:

(i) the necessity for giving the appropriate ATS unit prior warning of the situation and of obtaining a provisional descent clearance, and

(ii) the action to be taken in the event that communication with the ATS unit cannot be established or is interrupted;

2.1.32 Ground handling arrangements and procedures;

2.1.33 Procedures for making meteorological observations on board an aircraft in flight and for recording and reporting them in accordance with ICAO PANS RAC and Regional Supplementary Procedures as appropriate.

2.1.34 Policy, instructions, procedures and training requirements for the avoidance of collisions and the use of the airborne collision avoidance system (ACAS);"

2.2 Aircraft Operating Manual

2.2.1 A description of the certification and operating limitations;

2.2.2 The normal, abnormal and emergency procedures to be used by the flight crew, the checklists relating thereto as required by the Order, including a statement related to the necessary procedures for the co-ordination between flight and cabin crew;

2.2.3 Operating instructions and information on climb performance with all engines operating where provided;

2.2.4 Flight planning data for pre-flight and in-flight planning with different thrust/power and speed settings;

2.2.5 Instructions and data for mass and balance calculations;

2.2.6 Instructions for aircraft loading and securing of load;

2.2.7 Aircraft systems, associated controls and instructions for their use.

2.3 Minimum Equipment List (MEL) and Configuration Deviation List (CDL)

2.3.1 The minimum equipment list and configuration deviation list for the aeroplane types operated and specific operations authorised, including any requirements relating to operations in RNP/RVSM/ MNPS designated airspace as appropriate.

2.4 Training Manual

2.4.1 Details of the flight crew training programme and training requirements;

2.4.2 Details of the cabin crew training programme as required by the Order;

2.4.3 Details of the training programme for a flight operations officer;

2.4.4 Information on the operators' training programme for the development of personnel knowledge and skills related to human performance.

2.5 Airport and Runway Analysis Manual

2.5.1 The necessary information for compliance with all flight profiles required by the pertinent regulations, including but not limited to, the determination of:

(a) take-off runway length requirements for dry, wet and contaminated conditions;

(b) take-off climb limitations;

(c) en-route climb limitations;

(d) approach and landing climb limitations;

(e) landing runway length requirements for dry, wet and contaminated conditions, including the effects of systems failures which would affect the landing distance; and

(f) supplementary information, such as tyre speed limitations.

2.6 Route Manual

2.6.1 A route guide to ensure that the flight crew will have, for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation and such other information as the operator may deem necessary for the proper conduct of flight operations;"

2.6.2 The minimum flight altitudes for each route to be flown;

2.6.3 The aerodrome operating minima for each of the aerodromes or heliports that are likely to be used as aerodromes or heliports of intended landing or as alternates;

2.6.4 The increase of aerodrome or heliport operating minima in case of a degradation of approach or aerodrome/heliport facilities.

2.7 Cabin Safety and Emergency Procedures Manual

2.7.1 Checklist of emergency and safety equipment and instructions for its use;

2.7.2 Emergency evacuation procedures, including type-specific procedures, crew co-ordination, assignment of crew's emergency positions and the emergency duties assigned to each crew member;

2.7.3 The normal, abnormal and emergency procedures to be used by the cabin crew, the checklists relating thereto and aircraft systems information as required, including a statement related to the necessary procedures for the co-ordination between flight and cabin crew;

2.7.4 Survival and emergency equipment for different routes and the necessary procedures to verify its normal functioning before take-off, including procedures to determine the required amount of oxygen and the quantity available;

2.7.5 The ground-air visual signal code for use by survivors, as contained in Annex 12 to the Convention.

2.8 Dangerous Goods Manual

2.8.1 Information and instructions on the carriage of dangerous goods, including action to be taken in the event of an emergency.

Note: Guidance material on the development of policies and procedures for dealing with dangerous goods incidents on board an aircraft is contained in Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods (ICAO Doc 9481).

2.9 Accident Prevention and Flight Safety Manual

2.9.1 Details of the accident prevention and flight safety programme provided in accordance with Article 9 of the Order, including a statement of safety policy and the responsibility of personnel.

2.10 Security Manual

2.10.1 Security instructions and guidance;

2.10.2 The search procedure checklist provided in accordance with the Order.

3. Records of Emergency and Survival equipment carried

The lists of emergency and survival equipment required by Article 52 of this Order shall include information as applicable concerning:

(a) the number, colour and type of life rafts;
(b) the colour and type of pyrotechnics;
(c) details of emergency material supplies;
(d) water supplies;
(e) the type and frequencies of emergency portable radio equipment.

4. A. Operator's Maintenance Control Manual

The operator's maintenance control manual provided in accordance with Article 61 of the Order, which may be issued in separate parts, shall contain the following information:

(1) a description of the maintenance procedures required by Article 61 of the Order including, when applicable:

(a) a description of the administrative arrangements between the operator and the approved maintenance organisation, where applicable,

(b) a description of the maintenance procedures and the procedures for completing and signing a maintenance release;

(2) names and duties of the person or persons required by Article 61 of the Order;

(3) a reference to the maintenance programme required by Article 61 of the Order;

(4) a description of the methods used for the completion and retention of the operator's maintenance records required by Article 63 of the Order;

(5) a description of the procedures for monitoring, assessing and reporting maintenance and operational experience required by Article 61 of the Order;

(6) a description of the procedures for complying with the service information (i.e. defect) reporting requirements of Article 61 of the Order;

(7) a description of procedures for assessing continuing airworthiness information and implementing any resulting actions, as required by Article 61 of the Order;

(8) a description of the procedures for implementing action resulting from mandatory continuing airworthiness information;

(9) a description of establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance programme, in order to correct any deficiency in that programme;

(10) a description of the aircraft types and models to which the manual applies;

(11) a description of procedures for ensuring that unserviceabilities affecting airworthiness are recorded and rectified; and

(12) a description of the procedures for advising the State of Registry of significant in-service occurrences.

B. Maintenance Programme

(1) A maintenance programme for each aeroplane as required by Article 61 of the Order shall contain the following information:

(a) maintenance tasks and the intervals at which these are to be performed, taking into account the anticipated utilisation of the aeroplane,

(b) when applicable, a continuing structural integrity programme,

(c) procedures for changing or deviating from a) and b) above, and

(d) when applicable, condition monitoring and reliability programme descriptions for aircraft systems, components and powerplants;

(2) Maintenance tasks and intervals that have been specified as mandatory in the state of manufacture in approval of the type design shall be identified as such;

(3) The maintenance programme for an aircraft type shall be based on maintenance programme information made available by the State of Design or by the organisation responsible for the type design, and any additional applicable experience.

Given under the common seal of the Irish Aviation Authority this 6th day of February, 2006.

LS

A. Lait **Director**

N. Branagan **Director**

EXPLANATORY NOTE

(This note is not part of the Order and does not purport to be a legal interpretation)

This Order revokes and re-enacts with modifications the Irish Aviation Authority (Operations) Order, 2002 (S.I. No. 437 of 2002) by incorporating the amending Irish Aviation Authority (Operations)(Amendment) Orders issued since 2002 viz. S.I. No. 592 of 2002, S.I. No. 388 of 2003, S.I. No. 217 of 2005 and S.I. No. 778 of 2005 which in turn reflected amendments since 2002, inter alia, to Parts 1,2, and 3 of Annex 6 to the Convention. There are, additionally, some legislative drafting clarifications in Articles 4, 28, 45 and 61 and corrections of certain provisions and cross references. The Order both implements Annex 6 (Parts 1, 2 and 3) to the Convention in the State and enables the Joint Aviation Requirements applicable to the operation of aircraft (mainly JAR-OPS).